ARTS DEPT.



# THE ARCHITECTS' JOURNAL




*standard contents*

*every issue does not necessarily contain all these contents, but they are the regular features which continually recur*

*NEWS and COMMENT*
*Astragal's Notes and Topics*
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*CURRENT BUILDING*
*Major Buildings described:*
*Details of Planning, Construction, Finishes and Costs*
*Buildings in the News*
*Building Costs Analysed*

*Architectural Appointments Wanted and Vacant*



No. 3210] [Vol. 124

THE ARCHITECTURAL PRESS

11 and 13, Queen Anne's Gate, Westminster, S.W.1. 'Phone: Whitehall 0611

*Price 1s. 0d.*

*Registered as a Newspaper.*


★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

| | | |
|---|---|---|
| IHVE | Institution of Heating and Ventilating Engineers. 49, Cadogan Square. | Sloane 1601/3158 |
| IIBDID | Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1. | Mayfair 7086 |
| ILA | Institute of Landscape Architects, 2, Guilford Place, W.C.1. | Holborn 0281 |
| I of Arb | Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2. | Temple Bar 4071 |
| IOB | Institute of Builders. 48, Bedford Square, W.C.1. | Museum 7197 |
| IQS | Institute of Quantity Surveyors. 98, Gloucester Place, W.1. | Welbeck 1859 |
| IR | Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. | Avenue 6851 |
| IRA | Institute of Registered Architects. 47, Victoria Street, S.W.1. | Abbey 6172 |
| ISE | Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1. | Sloane 7128 |
| LDA | Lead Development Association. Eagle House, Jermyn Street, S.W.1. | Whitehall 7264/4175 |
| LMBA | London Master Builders' Association. 47, Bedford Square, W.C.1. | Museum 3891 |
| LSPC | Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1. | Whitehall 7264/4175 |
| MAFF | Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. | Trafalgar 7711 |
| MARS | Modern Architectural Research Group (English Branch of CIAM). Secretary: Trevor Dannatt, A.R.I.B.A., 71, Blandford Street, W.1. | Welbeck 4713 |
| MOE | Ministry of Education. Curzon Street House, Curzon Street, W.1. | Mayfair 9400 |
| MOH | Ministry of Health. 23, Savile Row, W.1. | Regent 8411 |
| MOHLG | Ministry of Housing and Local Government. Whitehall, S.W.1. | Whitehall 4300 |
| MOLNS | Ministry of Labour and National Service. 8, St. James' Square, S.W.1. | Whitehall 6200 |
| MOS | Ministry of Supply. Shell Mex House, W.C.2. | Gerrard 6933 |
| MOT | Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. | Mayfair 9494 |
| MOW | Ministry of Works. Lambeth Bridge House, S.E.1. | Reliance 7611 |
| NAMMC | Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1. | Abbey 1010 |
| NAS | National Association of Shopfitters. 9, Victoria Street, S.W.1. | Abbey 4813 |
| NBR | National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. | Welbeck 0619 |
| NCBMP | National Council of Building Material Producers. 10 Storey's Gate, S.W.1. | Abbey5111 |
| NEFMAI | National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2. | Trafalgar 3927 |
| NFBTE | National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. | Langham 4041/4054 |
| NFBTO | National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. | Macaulay 4451 |
| NFHS | National Federation of Housing Societies. 12, Suffolk St., S.W.1. | Whitehall 1693 |
| NHBRC | National House Builders Registration Council. 82, New Cavendish Street, W.1. | Langham 4341 |
| NPL | National Physical Laboratory. Head Office, Teddington. | Molesey 1380 |
| NRDB | Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. | Mansion House 9383 |
| NSAS | National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. | Trafalgar 6838 |
| NT | National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. | Whitehall 0211 |
| PEP | Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. | Whitehal 7245 |
| RCA | Reinforced Concrete Association. 94, Petty France, S.W.1. | Abbey 4504 |
| RIAS | Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. | Fountainbridge 7631 |
| RIBA | Royal Institute of British Architects. 66, Portland Place, W.1. | Langham 5721 |
| RICS | Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. | Whitehall 5322/9242 |
| RFAC | Royal Fine Art Commission. 5, Old Palace Yard, S.W.1. | Whitehall 3935 |
| RS | Royal Society. Burlington House, Piccadilly, W.1. | Regent 3335 |
| RSA | Royal Society of Arts. 6, John Adam Street, W.C.2. | Trafalgar 2366 |
| RSH | Royal Society of Health. 90, Buckingham Palace Road, S.W.1. | Sloane 5134 |
| RIB | Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. | Wimbledon 5101 |
| SBPM | Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. | Victoria 2186 |
| SE | Society of Engineers. 17, Victoria Street, Westminster, S.W.1. | Abbey 7244 |
| SFMA | School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3. | Mansion House 3921 |
| SIA | Society of Industrial Artists. 7, Woburn Square, London, W.C.1. | Langham 1984/5 |
| SIA | Structural Insulation Association. 32, Queen Anne Street, W.1. | Langham 7616 |
| SNHTPC | Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk. Rutherglen | |
| SPAB | Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. | Holborn 2646 |
| TCPA | Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. | Temple Bar 5006 |
| TDA | Timber Development Association. 21, College Hill, E.C.4. | City 4771 |
| TPI | Town Planning Institute. 18, Ashley Place. S.W.1. | Victoria 8815 |
| TTF | Timber Trades Federation. 75, Cannon Street, E.C.4 | City 5040 |
| WDC | War Damage Commission. 6, Carlton House Terrace, S.W.1 | Whitehall 4341 |
| ZDA | Zinc Development Association. 34, Berkeley Square, W.1. | Grosvenor 6636 |




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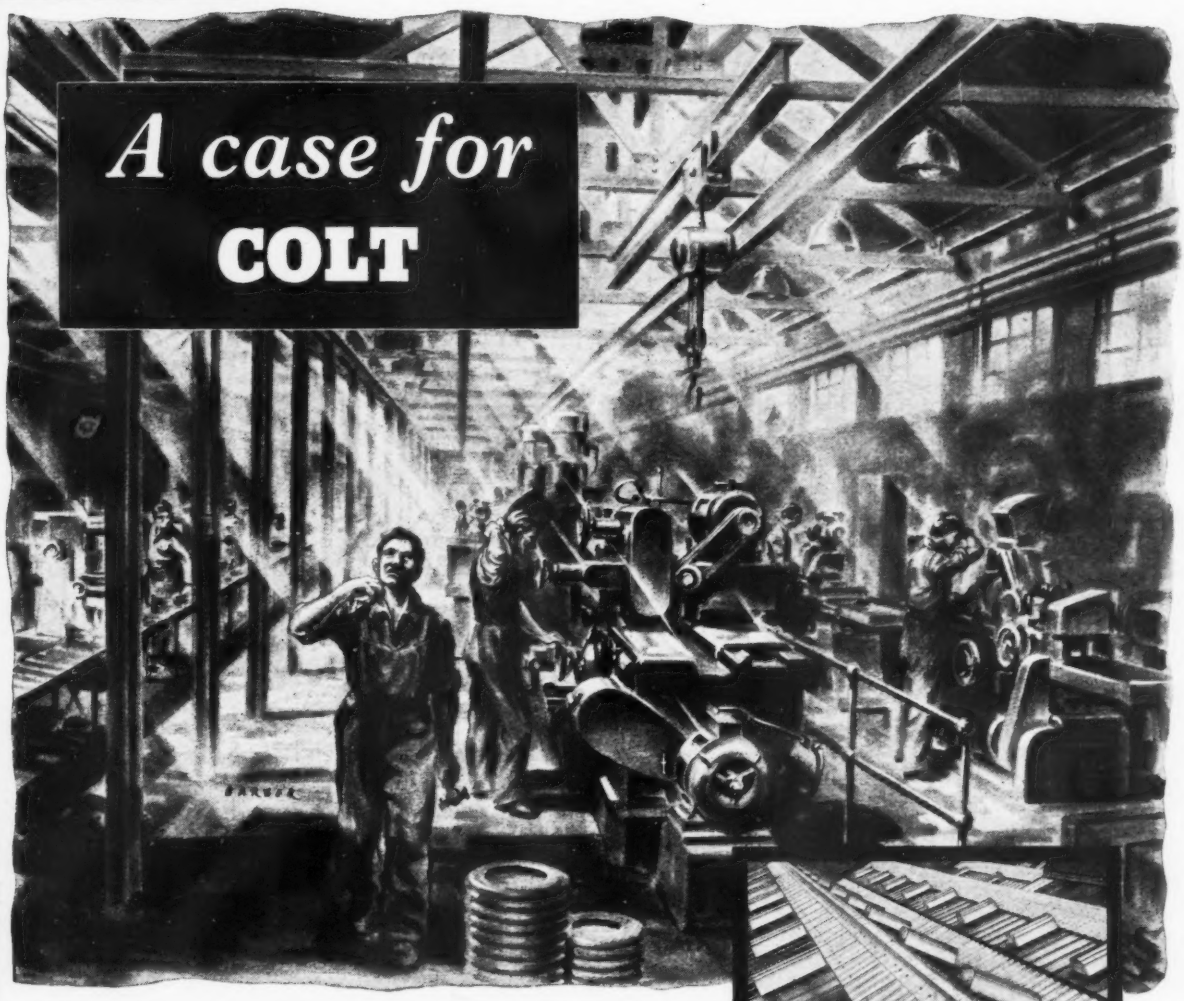
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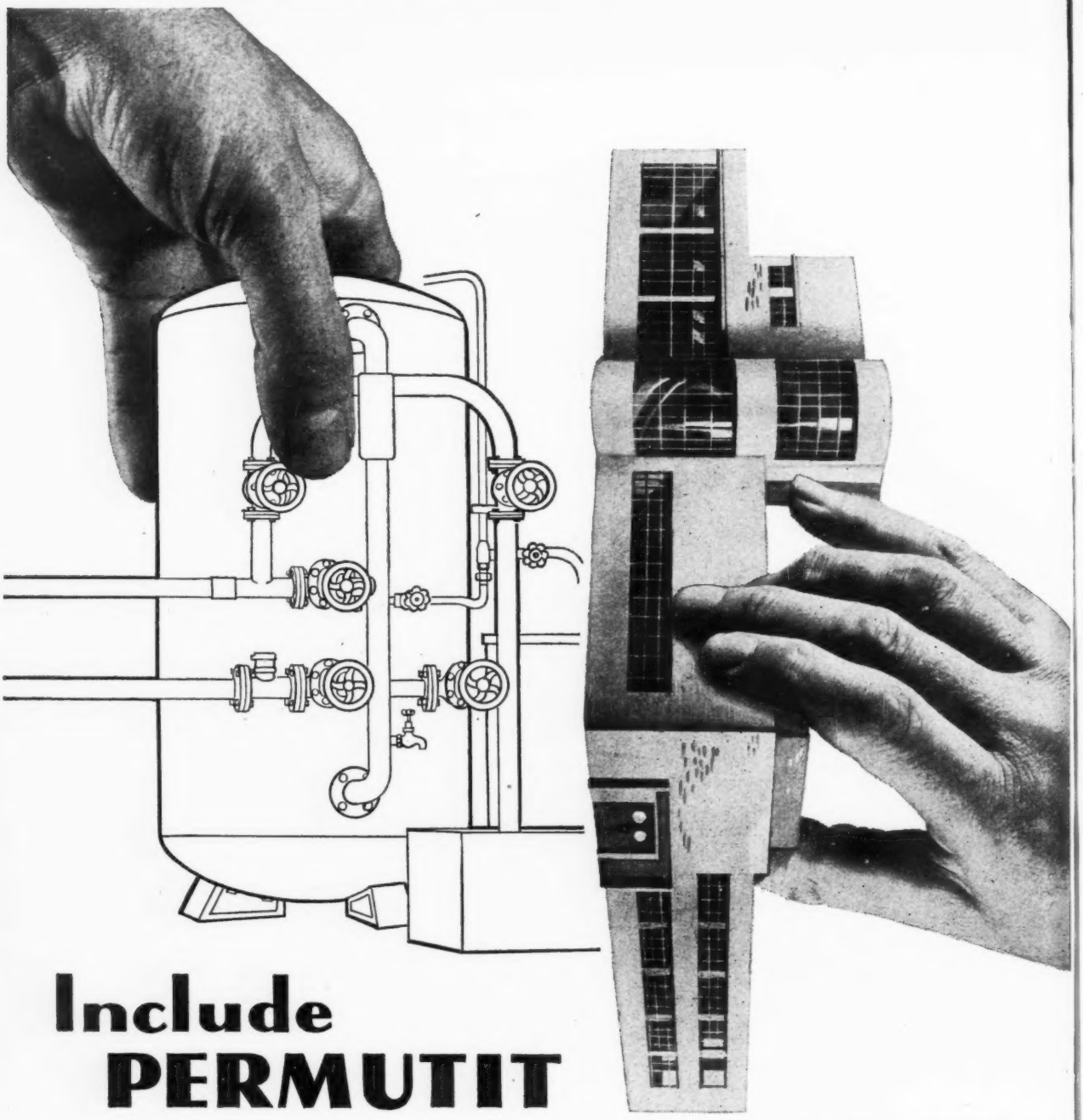
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G.104



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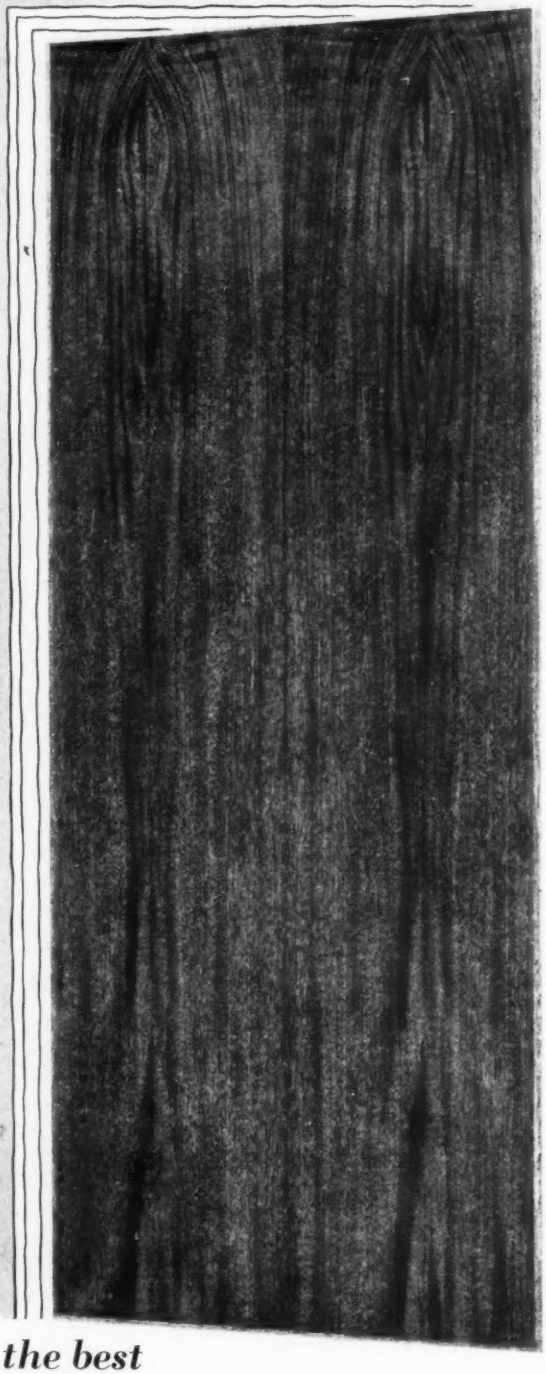


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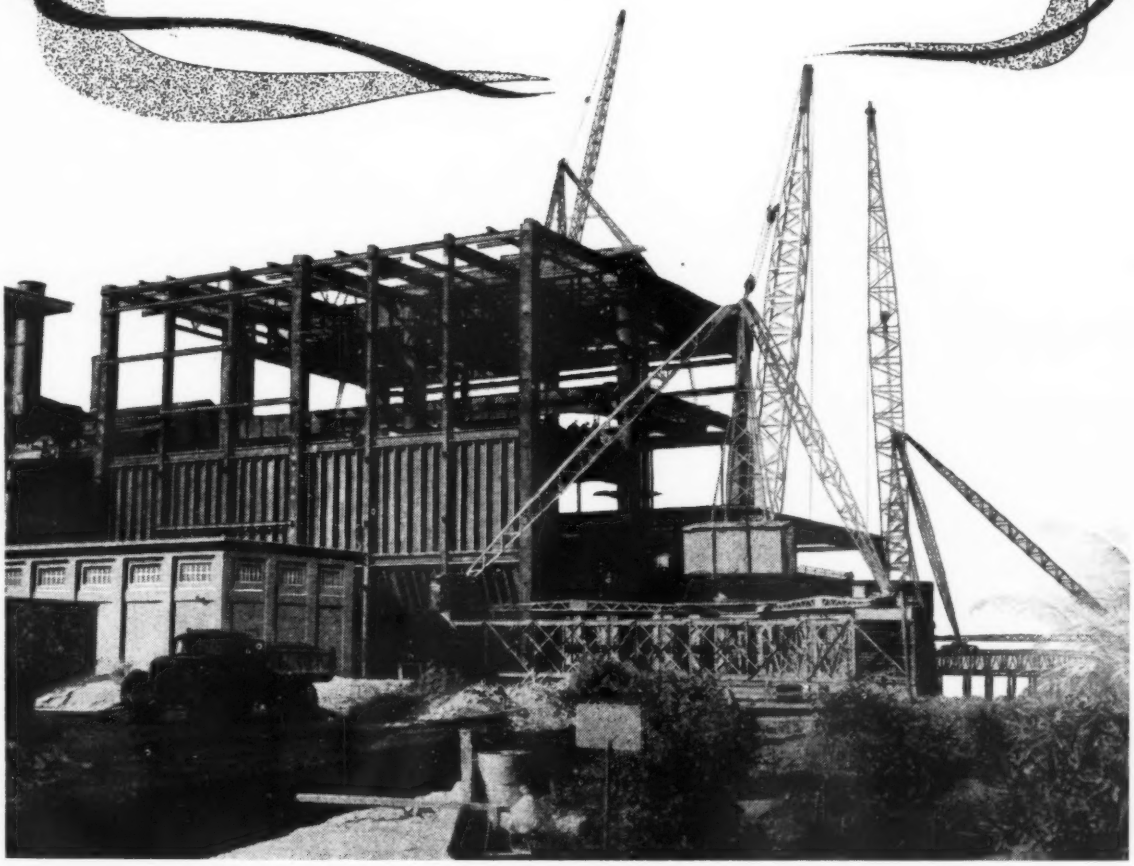
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M-W. 56

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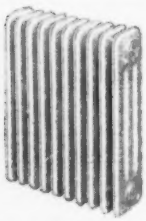
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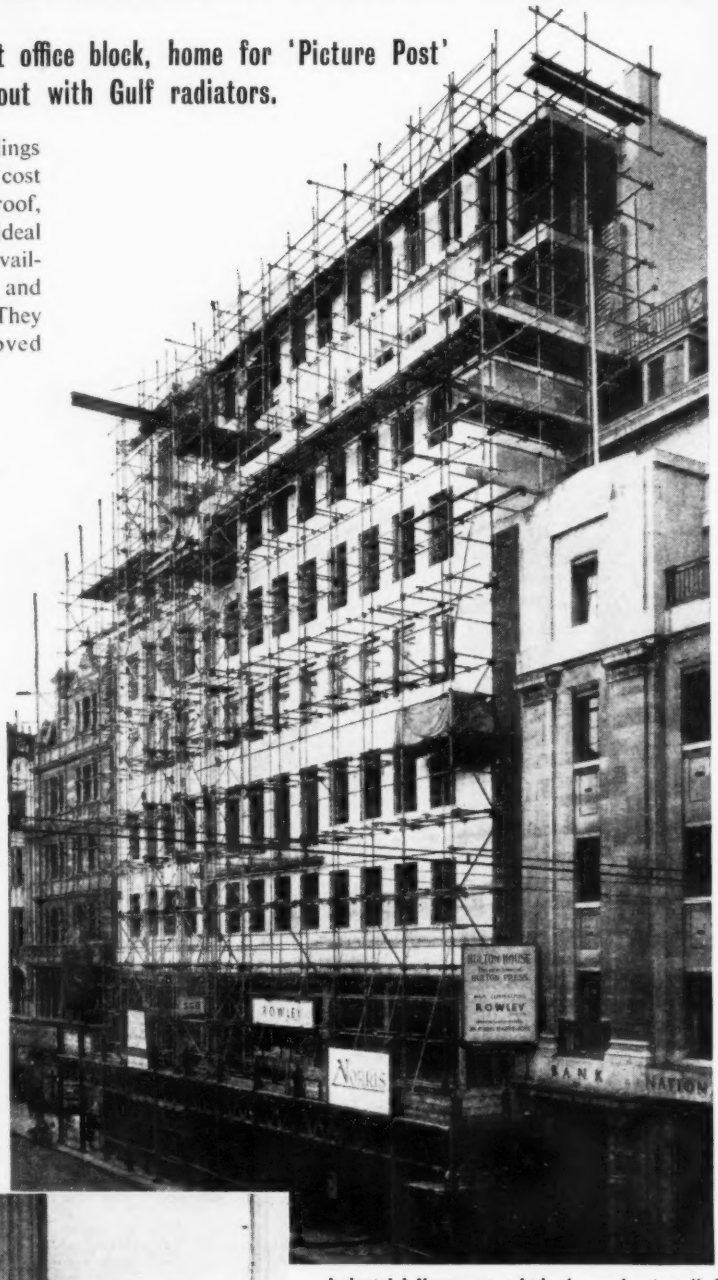


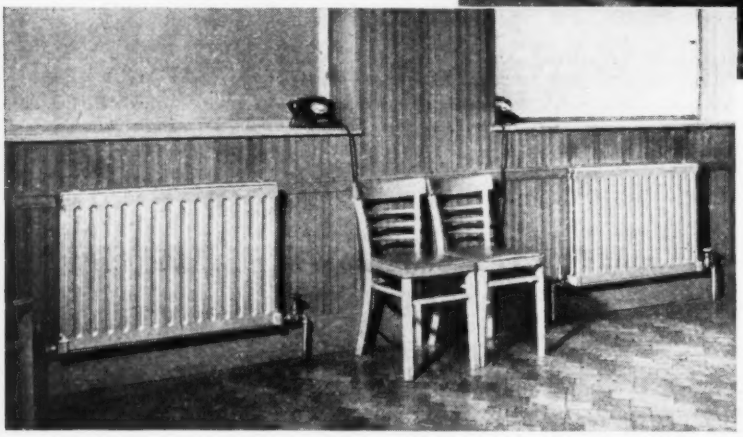
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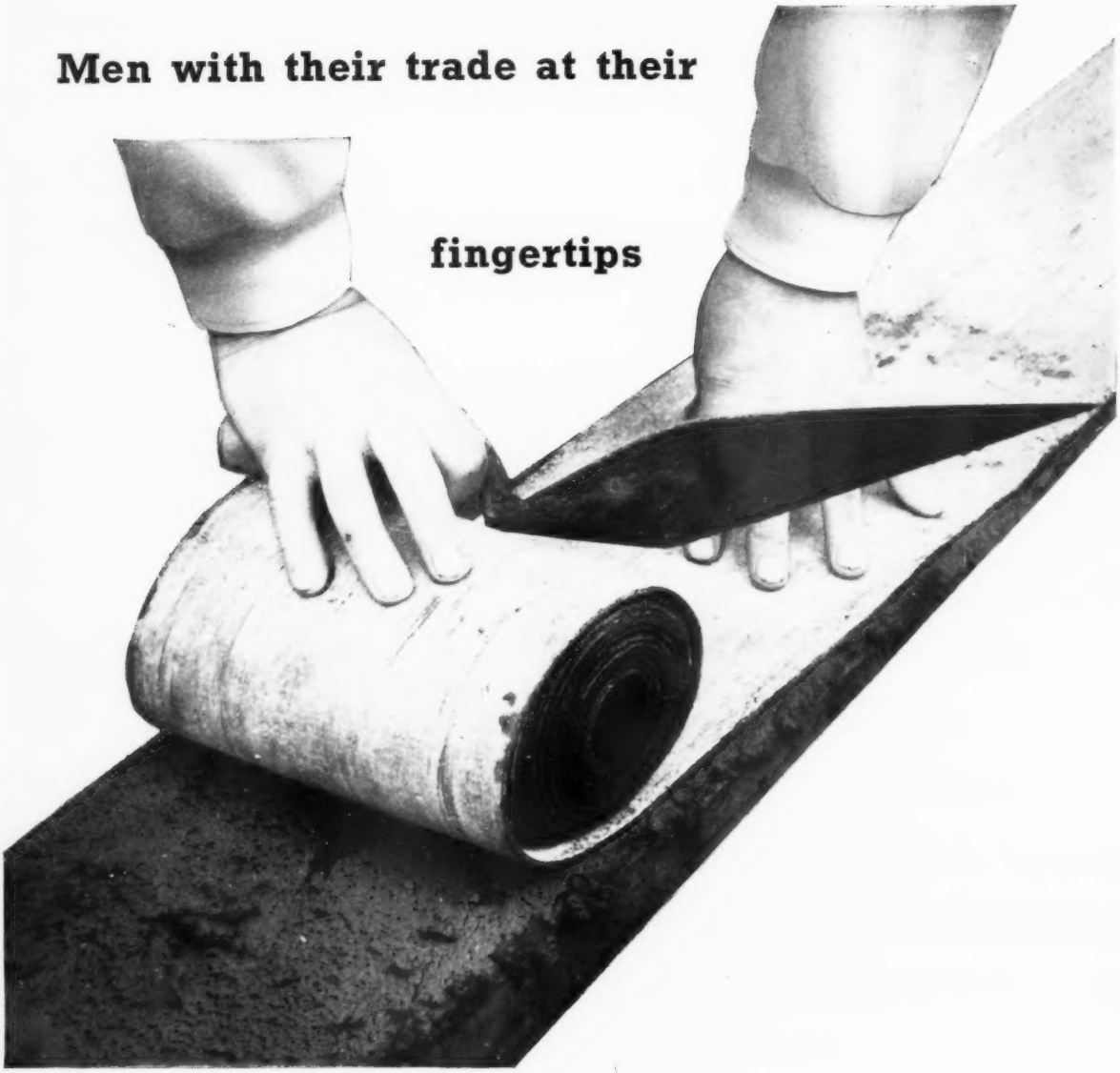
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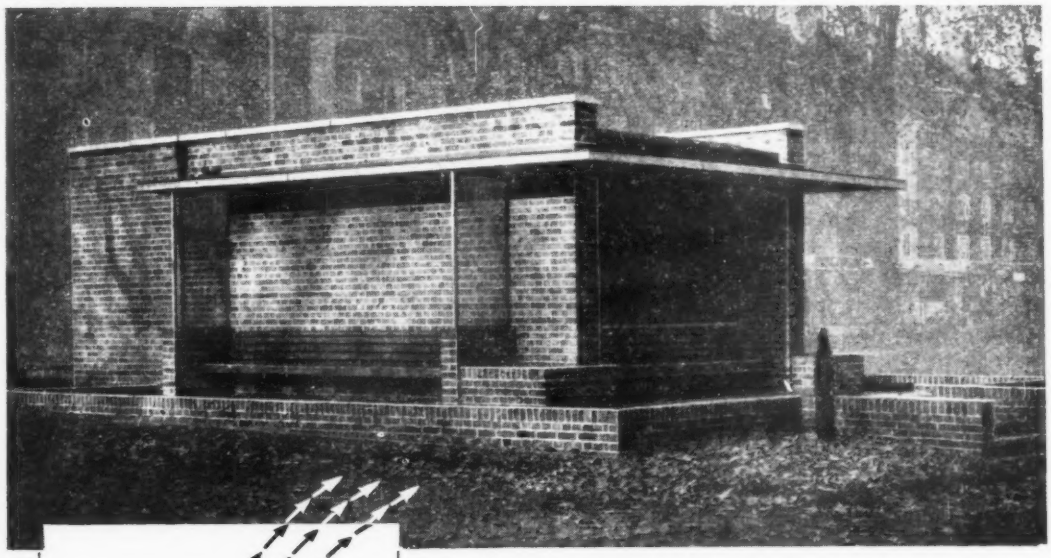
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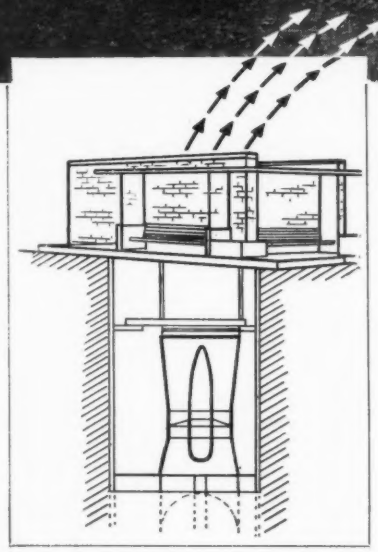
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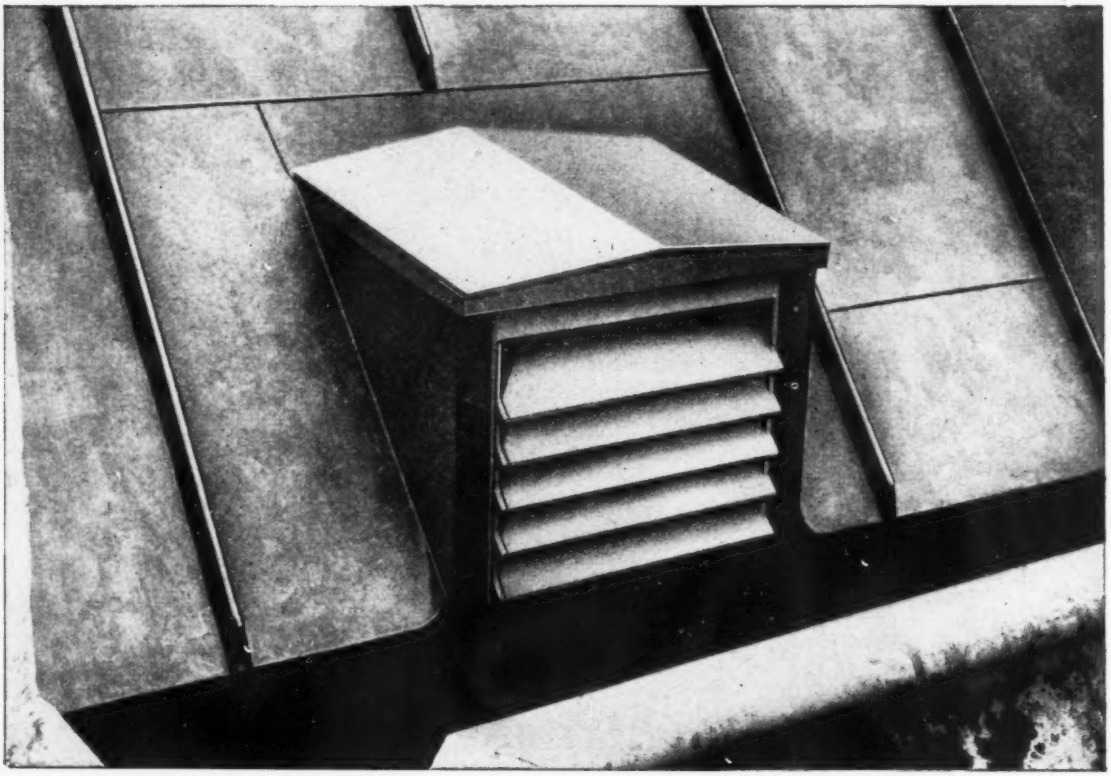
# COPPER



*West front, Chichester Cathedral*

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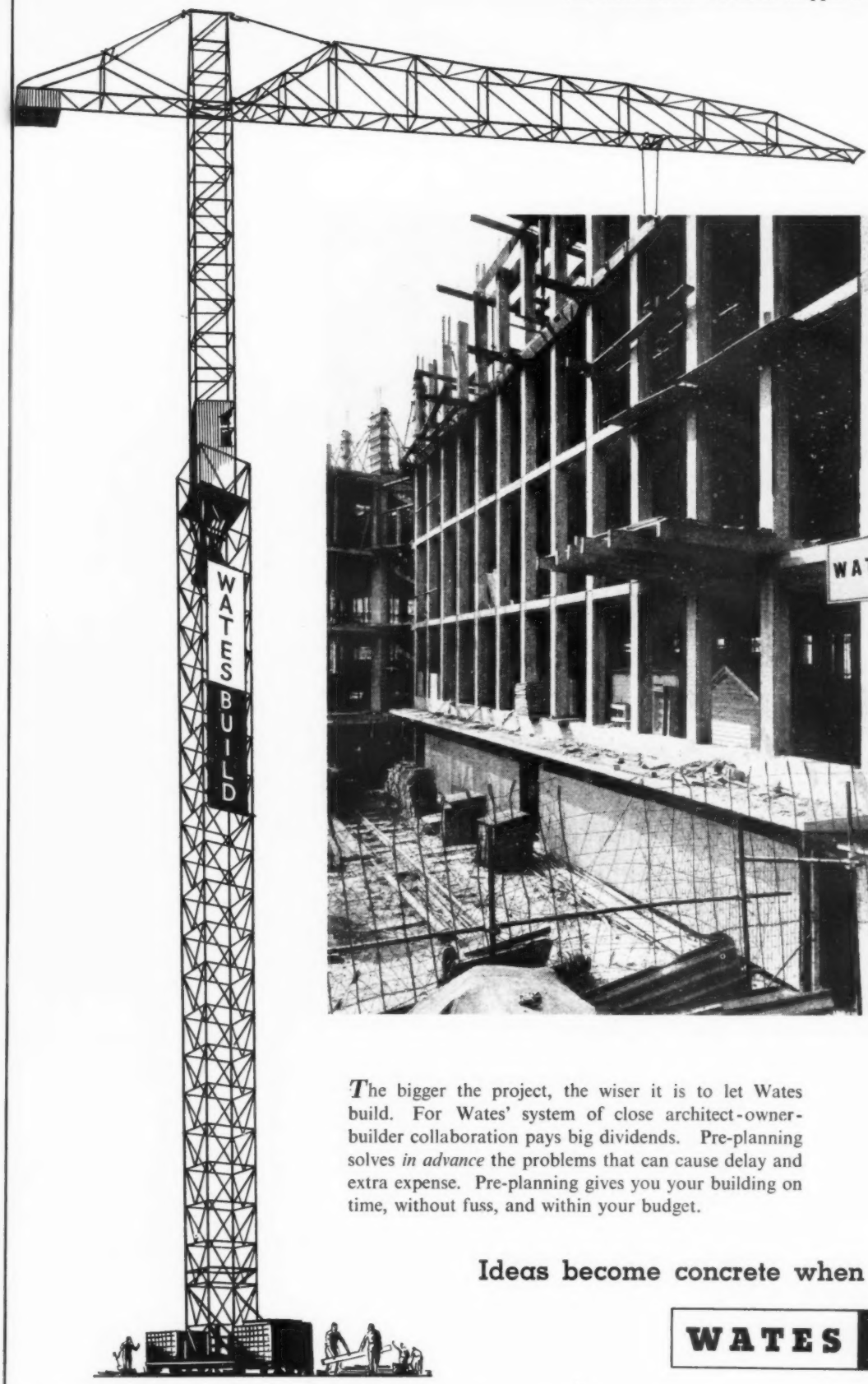
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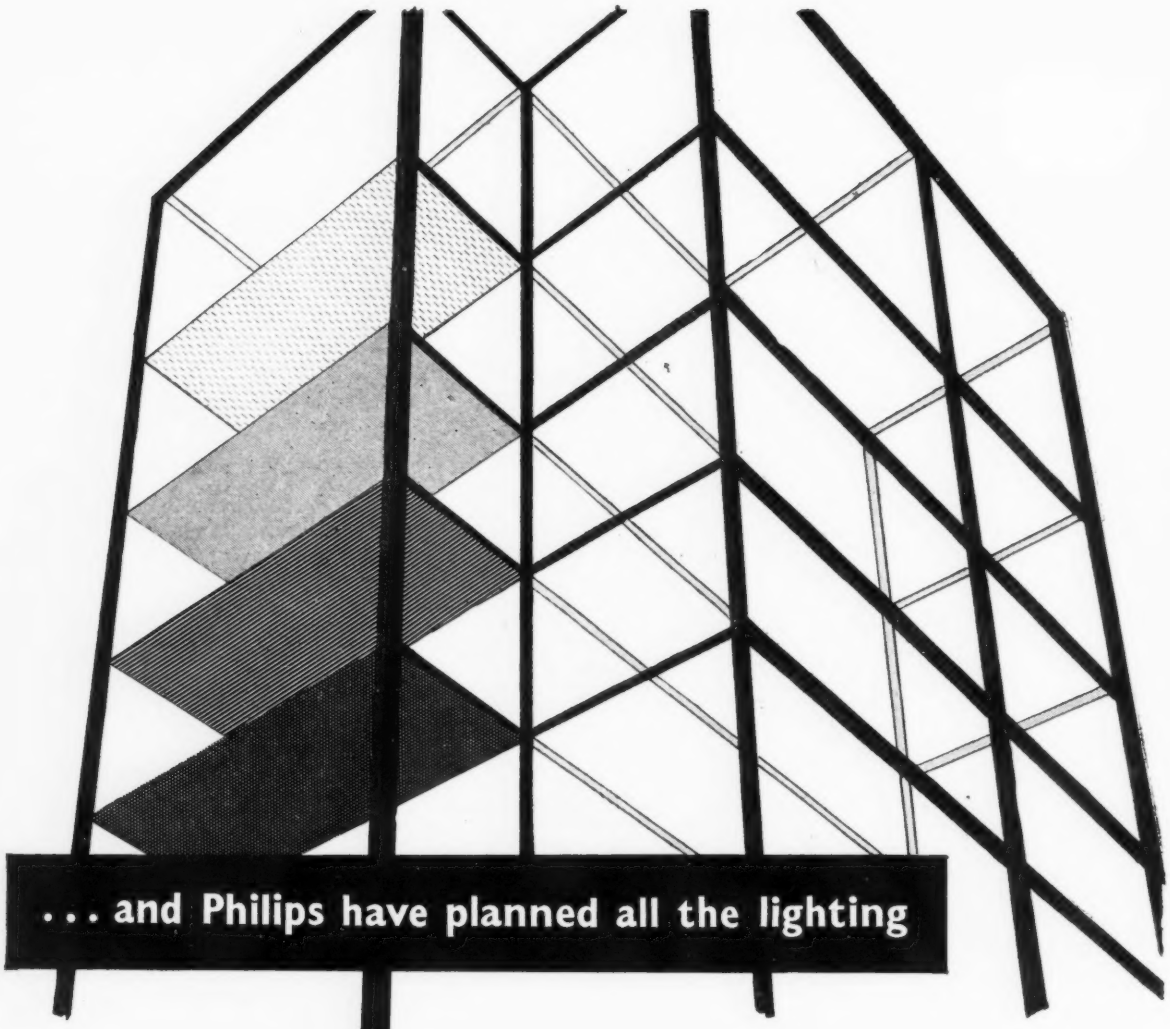
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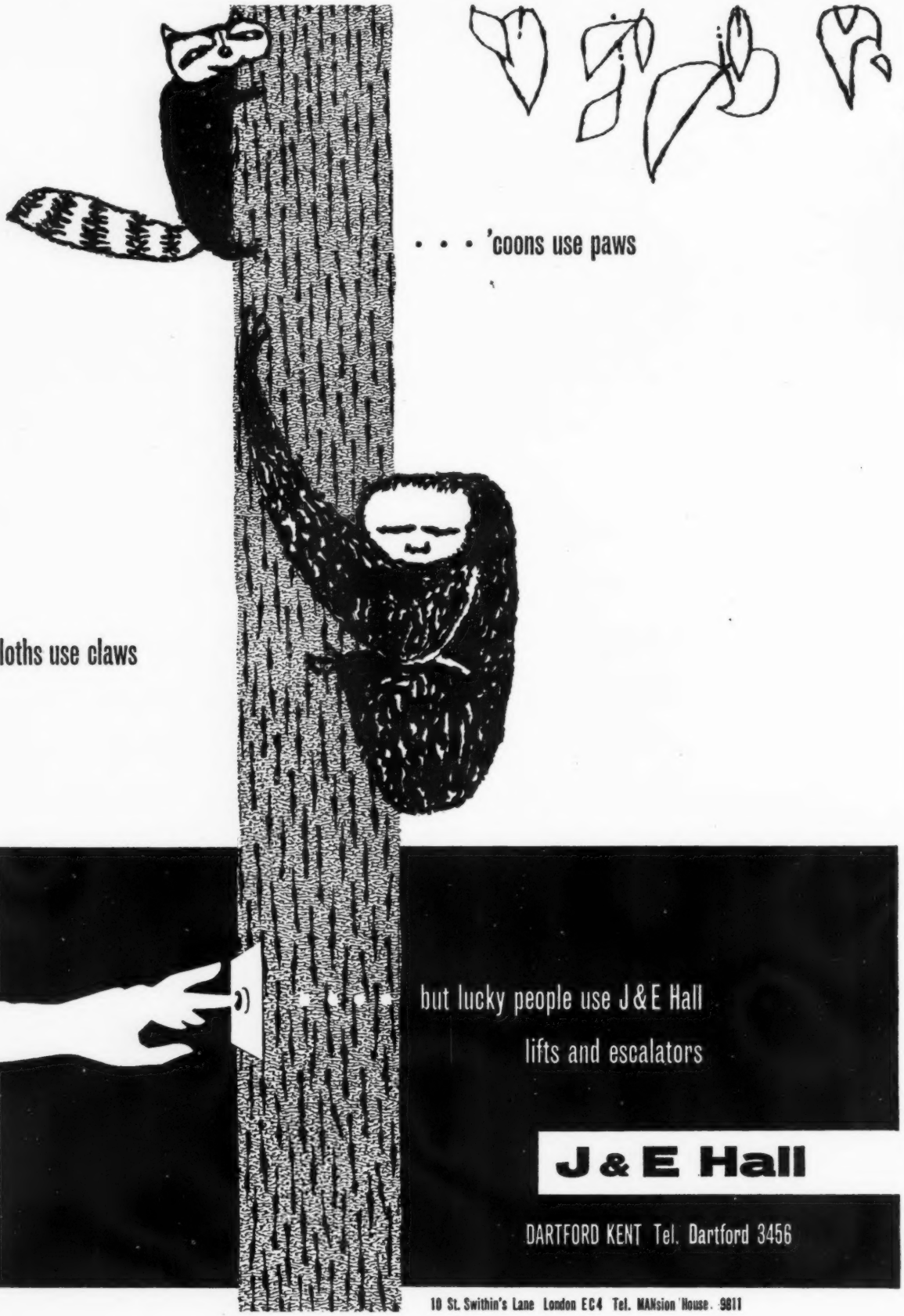
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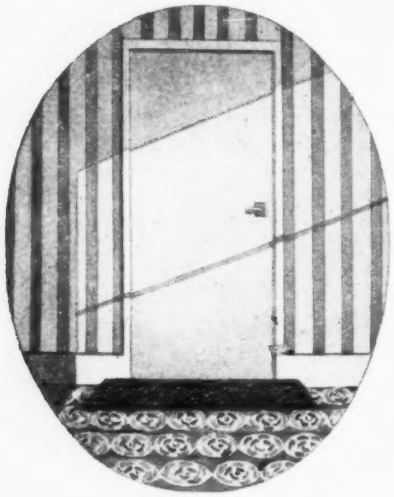
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**The plastic cisterns are made in a range of four models, the 'streamlined' model in three patterns — front and side action low level, and high level. These are in 2, 2½ and 3 gallon capacities to BSS1125, to meet all water regulations. The well-bottom pattern, 2 gallon capacity only, is designed primarily as a replacement for existing installations.**

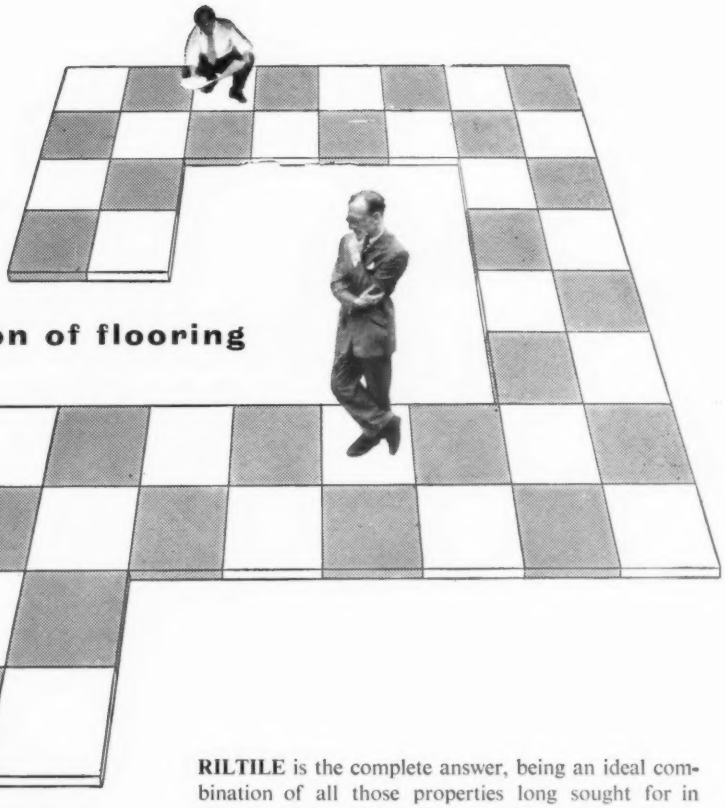
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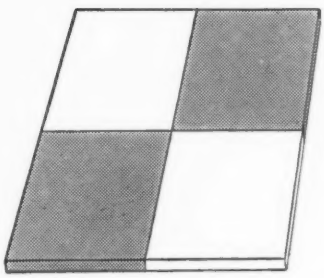
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**RILTILE** is the complete answer, being an ideal combination of all those properties long sought for in flooring. The outcome of intense research based upon long experience, this thermoplastic hard tile is recommended with every confidence for use in hospitals, kitchens, bathrooms, offices, shops, bars, restaurants

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**RILTILE**

*Thermoplastic Flooring*

*Extremely hard wearing* ☐ *Easily and quickly laid*

*Reduces foot fatigue* ☐ *No special cleaning required*

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# SELF-LOCK

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## SCAFFOLDING SYSTEM



Never before has there been such a radical advance in scaffolding erection. Compare each remarkable feature of *Mills Self-Lock Scaffolding* with those of any other scaffolding system, and see for yourself the advantages to be gained.

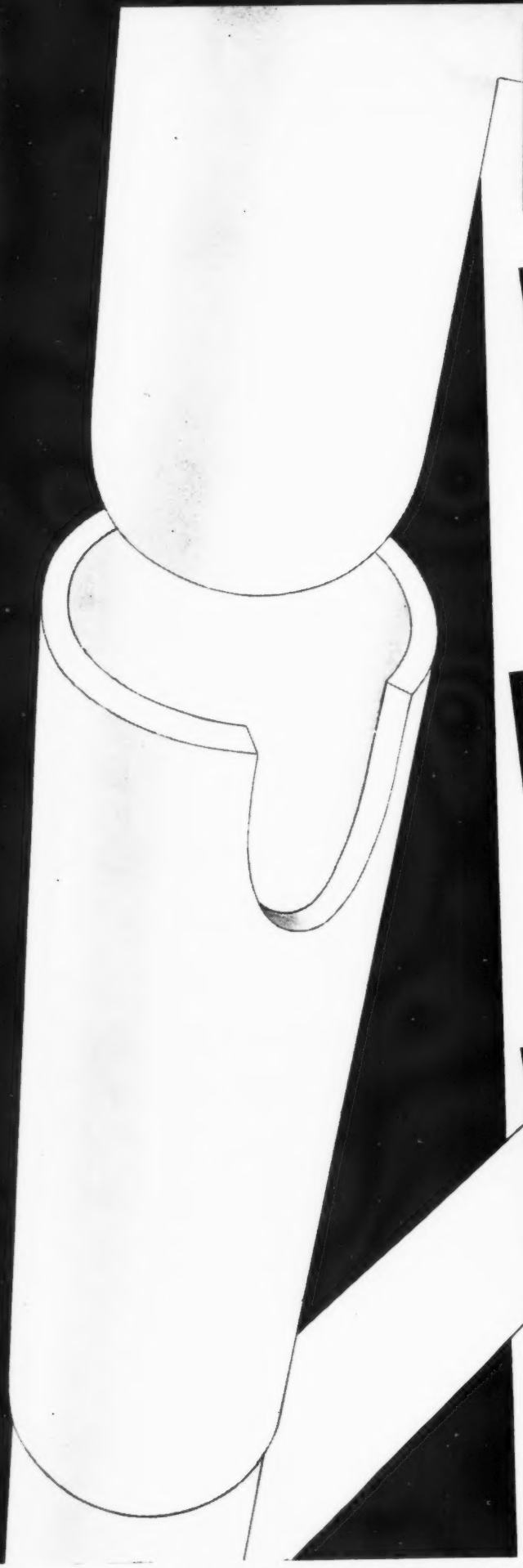
With the basic 5′ x 2′ frame, *Mills Self-Lock Scaffolding* saves time, money and labour on *every* scaffolding job — large or small.

**HAVE YOU HAD A DEMONSTRATION YET?**

*Ask your Mills representative to call and demonstrate this amazing scaffolding system with a scale model on your own desk.*

**MILLS SCAFFOLD CO. LTD.** (*A subsidiary of Guest, Keen & Nettlefolds*


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## NO NUTS! NO BOLTS! NO PINS! NO CLIPS! AND NO TOOLS NEEDED

There are no fastenings of any kind to get lost or damaged. Mills Self-Lock frames slot into each other; no tools are needed — just a pair of hands.

## FASTEST IN THE WORLD

The time taken to erect any structure is amazingly short. An 18 ft. tower 5 ft. square, for instance, can be erected in 2½ minutes — approximately 4 frames per minute, per man.

## LOWEST-EVER LABOUR COSTS

Even the biggest job needs only a two-man team; one to handle the frames and one to put them into position. Frames are made of high-grade, lightweight steel tube (the standard 5' × 2' frame weighs only 24½lb.) and are easy to handle.

## ENORMOUS SAVINGS

The scaffolding is self-aligning, affording additional economies to the basic savings in time and labour.

## SAFEST STRUCTURES

There are no loose fastening devices which can be lost, nothing that can be overlooked. The structure remains rigid under extreme strain. All load is taken on the upright members.

## RIGHT FOR EVERY JOB

Structures are made up of a series of towers joined by tie bars. There are innumerable combinations for erecting the frames and the scaffolding can be adapted for construction, maintenance and shoring jobs.

## ACCURATE ESTIMATING

As the number of towers can be easily ascertained, calculating the quantity of standard sized frames and tie bars takes only a few minutes.

## EASY TO STORE AND TRANSPORT

Mills Self-Lock Scaffolding is easy to transport and stacks in compact piles on site and in storage.

*Ltd.*) **HEAD OFFICE: TRUSSLEY WORKS, HAMMERSMITH GROVE, LONDON, W.6. TELEPHONE: RIVERSIDE 3011 (10 LINES)**

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**THERMALITE-YTONG for light weight, for strength, for insulation, for economy**

### What Thermalite-Ytong is

1 A light weight load bearing insulating building material

2 The size of blocks are nominal 18″×9″×2½, 3″, 4″, 5″, 6″, 8½″

3 The weight of blocks are, 3″ blocks—14 lbs. 4″ blocks—19 lbs. and 6″ blocks—28 lbs.

4 It has a cube compressive strength of 750/800 lbs. per sq. inch and a modulus of rupture of 160 lbs. per sq. inch as delivered

5 It has a high Thermal restivity. Two 3″ leaves of Thermalite-Ytong with 2″ cavity have a "U" Value of 0.15—equal to more than 40″ of brickwork

6 It is a stable weather-resistant material

7 It is easy to cut, chase, saw and work. Nails and screws can be driven direct

8 It is incombustible and fire resistant

9 It is vermin proof

### What Thermalite-Ytong does

1 It saves fuel cost in heating of buildings

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3 It reduces site labour costs

4 It carries floor and roof loadings because of its strength

5 It enables easy and direct fixing of joinery and fittings etc.

6 It saves structural steel and/or mild steel reinforcement

7 It saves in foundation costs

8 It reduces the risk of condensation

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*The Thermalite process which has been developed in the laboratories of John Laing and Son Limited is protected by British Patents Nos. 648280 and 648299.*

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*This aerial photograph shows part of the Pyrford Estate near Woking where houses have been built using Protimised Timber. The Builders were E. & L. Berg Ltd. of Esher and C. T. Crouch & Co. Ltd. of Kingston-on-Thames.*

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## *permanently protected against* DRY ROT and WOODWORM

- Timber treated with Protim Wood Preservative does not require subsequent re-seasoning or kilning as Protim contains no water.
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- Protim does not contain creosote or coal tar oils.
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- Protim stops or prevents woodworm and termite attacks by contact, stomach or respiratory poisoning.
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*Architects: James M. Monro & Sons*

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Ceramic TILES

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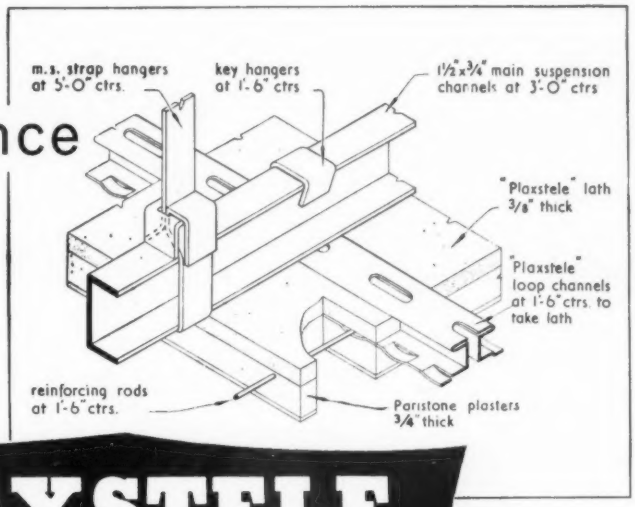
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combining high fire endurance

with great resilience




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*London Office:* Bath House, 82 Piccadilly, London, W.1. *Grosvenor 4617/9.*

SPRINGFIELD PLACE, from a recent painting by Felix Kelly




*Springfield Place, Chelmsford, Essex, is the home of Mr. E. R. Collister, A.A. Dipl., A.R.I.B.A. Mr. Collister recently converted much of the house into offices, and installed an oil-fired heating system. The fuel is supplied by Shell-Mex and B.P. Ltd.*

# THIS ARCHITECT'S HOME IS ALWAYS WARM

## *It has oil-fired central heating*

WHEN Mr. E. R. Collister, who is an architect, decided to convert the greater part of his charming 18th century house into offices, he chose an oil-fired central heating system. Now, living and working in the same building, he enjoys an easily controlled temperature all the year round.

Mr. Collister has merely done what many people will wish to do in the next two or three years. Much of the increase in energy this country needs must come from oil-fuel if we are to maintain our post-war industrial progress. For with labour rapidly becoming our scarcest commodity, only energy in one form or another can replace it.

Moreover, the conversion to oil of central-heating plants at present using coke is doubly welcome, for it releases the coke which will be needed for the domestic grates in smokeless zones.

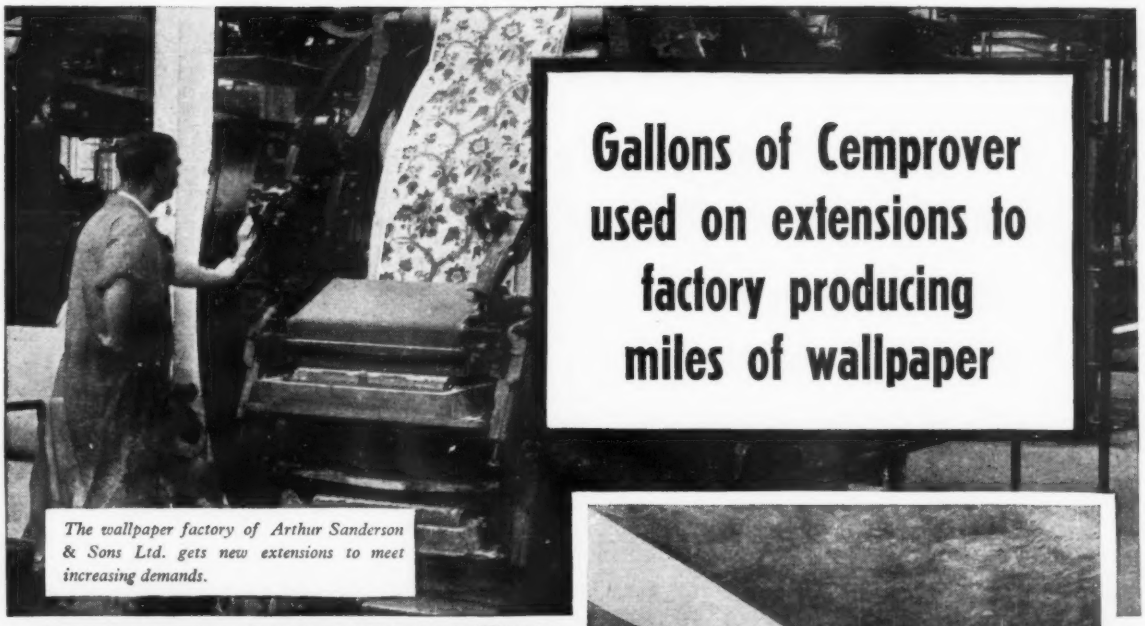
But one does not have to convert to oil from purely altruistic motives —there are solid advantages to be gained. Not only is oil-fired central heating economical to run, but it is also simplicity itself to operate. Only a few minutes' maintenance is needed every few weeks. There is no stoking to be done and no ash to be cleared out. Oil-fuel burns cleanly, is easily stored in large quantities, and presents no supply problems.

If you are interested in central heating for your own house, or if you are responsible for the installation or conversion of heating systems in any other premises, you may find it well worth your while to make provision for oil-firing for the heating and hot-water boilers.

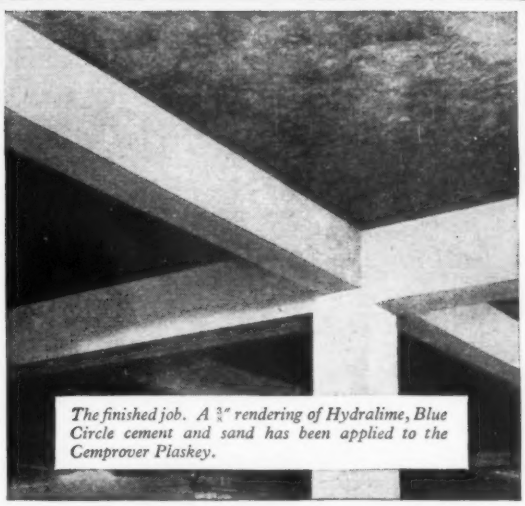
In public buildings like factories, offices or schools, as well as in private houses, oil-fired central heating is the most efficient, flexible and labour-saving system there is.

If you would like any further technical information, do not hesitate to write to Shell-Mex and B.P. Ltd., Fuel Oil Dept. 2F, Shell-Mex House, Strand, London, W.C.2. This will, of course, place you under no obligation.

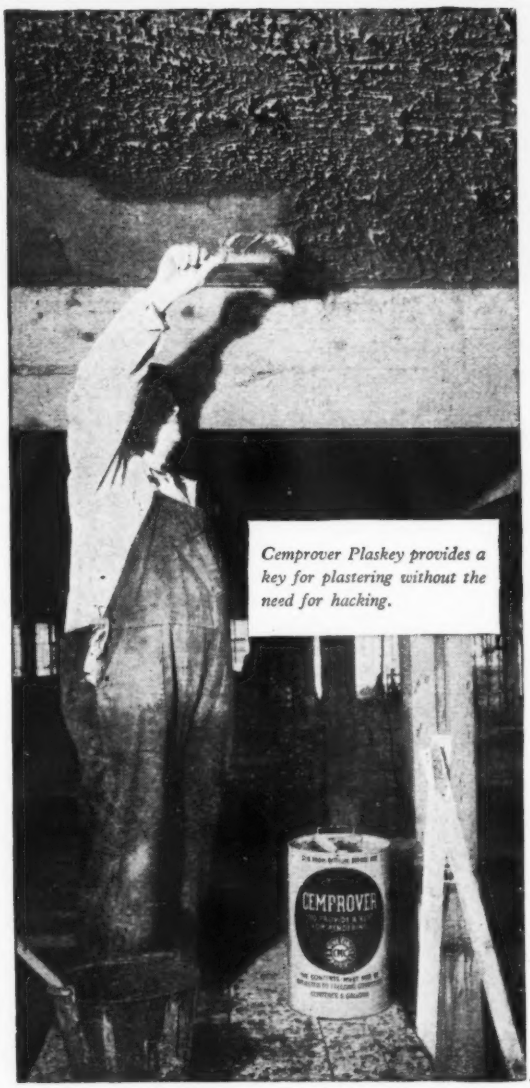
# Gallons of Cemprover used on extensions to factory producing miles of wallpaper



*The wallpaper factory of Arthur Sanderson & Sons Ltd. gets new extensions to meet increasing demands.*



*The finished job. A ¾" rendering of Hydralime, Blue Circle cement and sand has been applied to the Cemprover Plaskey.*




*Cemprover Plaskey provides a key for plastering without the need for hacking.*

This is one of the many instances in which a saving of time and improved results are being achieved by using Cemprover Plaskey to provide a key for rendering. A brush application of Cemprover Plaskey—made with sand, Blue Circle cement and Cemprover—supersedes the practice of hacking, where the key is dependent on the depth and extent of the hacking.

Cemprover Plaskey adheres perfectly to untreated concrete or smooth-faced bricks, and its stippled texture provides the ideal key for internal or external plastering.

ARCHITECTS: LEY, COLBECK & PARTNERS. CONTRACTORS: SIMS & RUSSELL LTD.

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# —it's the Vogue

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**First Class Design:** Big as a Magna, the three tap positions make the Vogue easy to install in bathrooms. The bottom is flatter than most baths —a good safety device—and the bath can be ordered without or with a useful handgrip at a small extra cost. The fact that it is shallow too, makes it extremely suitable for elderly people or for mothers with children to bath. The convenient recess is an insurance against toe-stubbing when cleaning the bath or washing children.

**The Price:** For a bath with such elegance, the Allied Vogue is an outstanding bargain, and like all Allied baths, will stand up to any amount of hard wear.

**The Colour Range**—all the well-known Duramel colours are available.

**She'll love the elegance and be delighted at the price of the**

**ALLIED Vogue BATH**

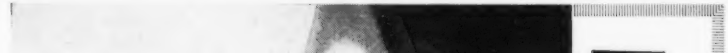


**Three tap positions:** There are three tap positions, on either corner or in the usual central position, for ease of installation.

*For further details write to the Housing Division of*

**Allied Ironfounders Ltd**

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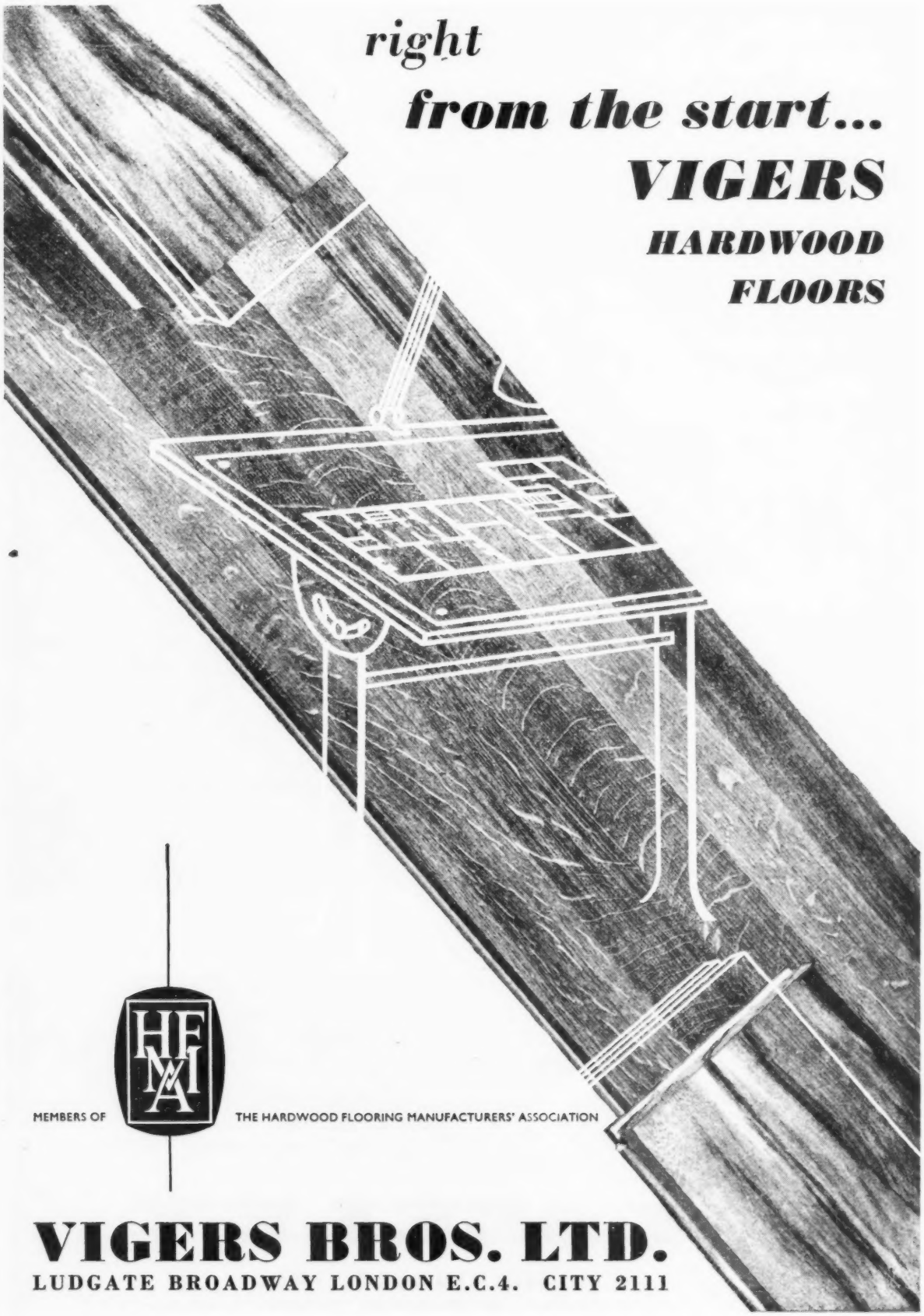
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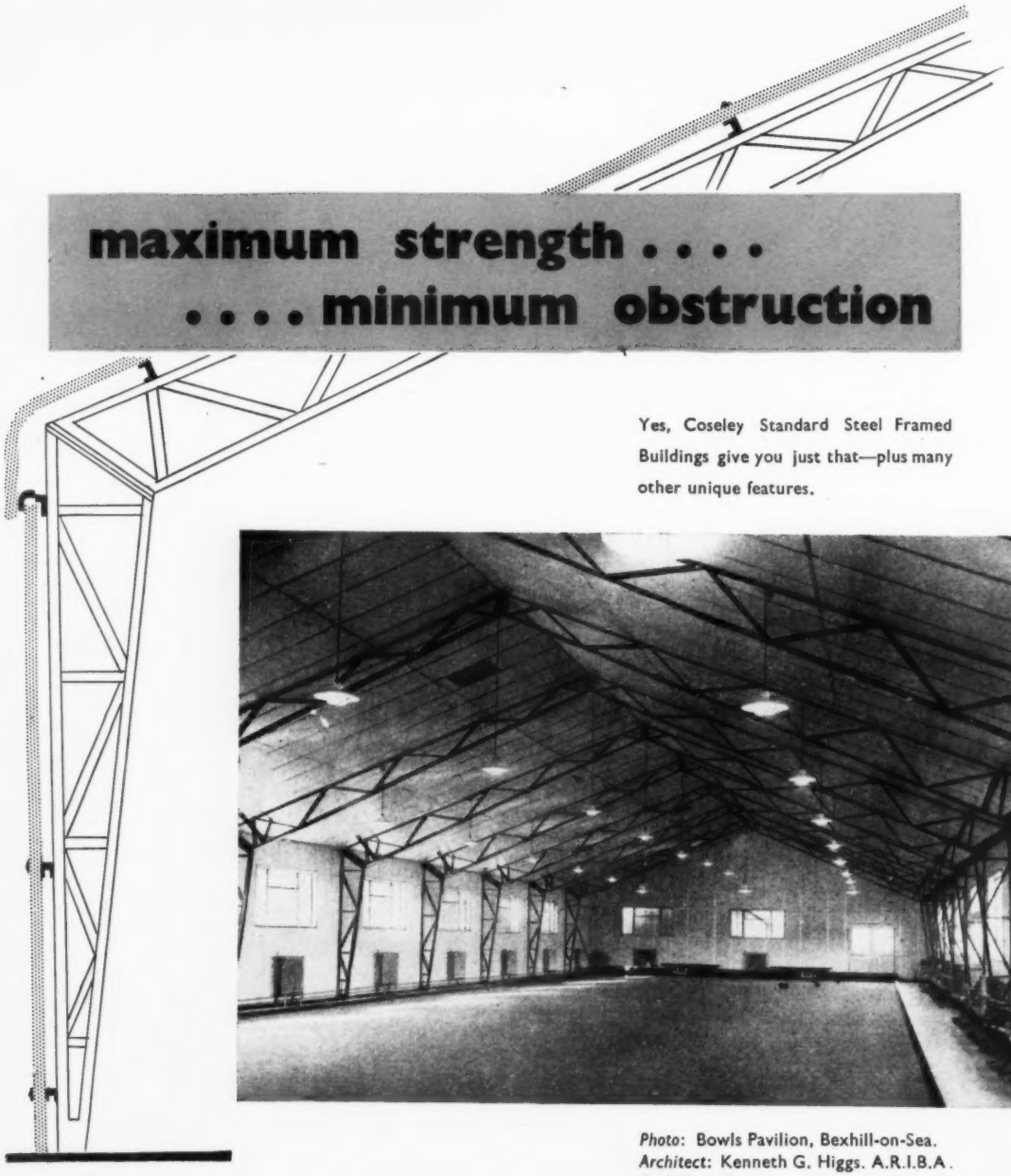
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*Photo:* Bowls Pavilion, Bexhill-on-Sea.
*Architect:* Kenneth G. Higgs. A.R.I.B.A. Bexhill-on-Sea.

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**The illustration shows just one of the countless applications of Coseley Buildings. Designed in clear spans of from 30ft. to 75ft. with eaves heights of from 8ft. to 20ft., there is an answer to any problem of accommodation within this range, which is readily and economically available.**

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# ROMULUS tiles

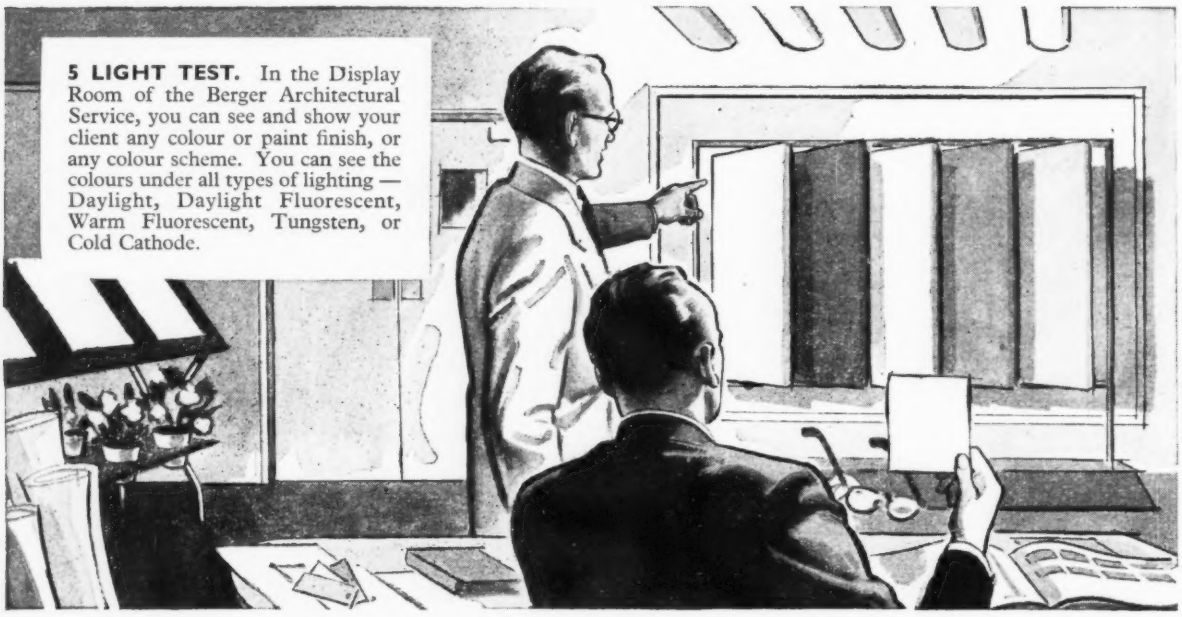
## on the Unitarian Church, Great Yarmouth

Architect: Clifford H. Dann, A.R.I.B.A.
Contractors: H. R. Middleton & Co. Ltd., Yarmouth
Tiles supplied by: Garson Blake & Son, Ltd., Yarmouth




*Specimens of Wheatly burnt clay products may be seen at the Building Centre, London. They include Single-lap Roofing Tiles, Ridge Tiles (blue and red), Floor Quarries, Air Bricks and Briquette Fireplaces.*

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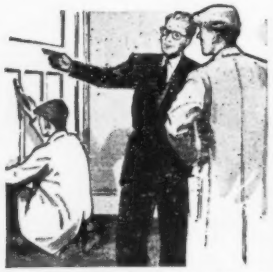
*The staff of the Berger Architectural Service will survey the job and prepare a detailed painting specification for you.*

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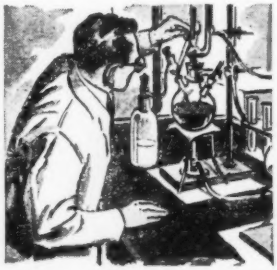
All or any one of its individual services are freely available to you and carry no obligation.

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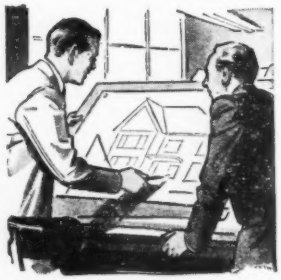
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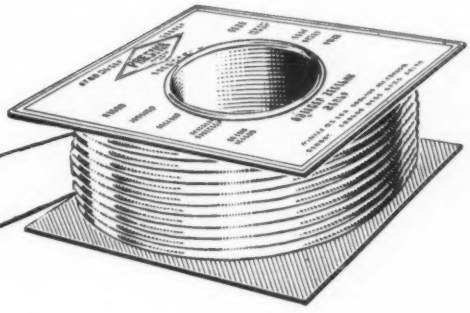
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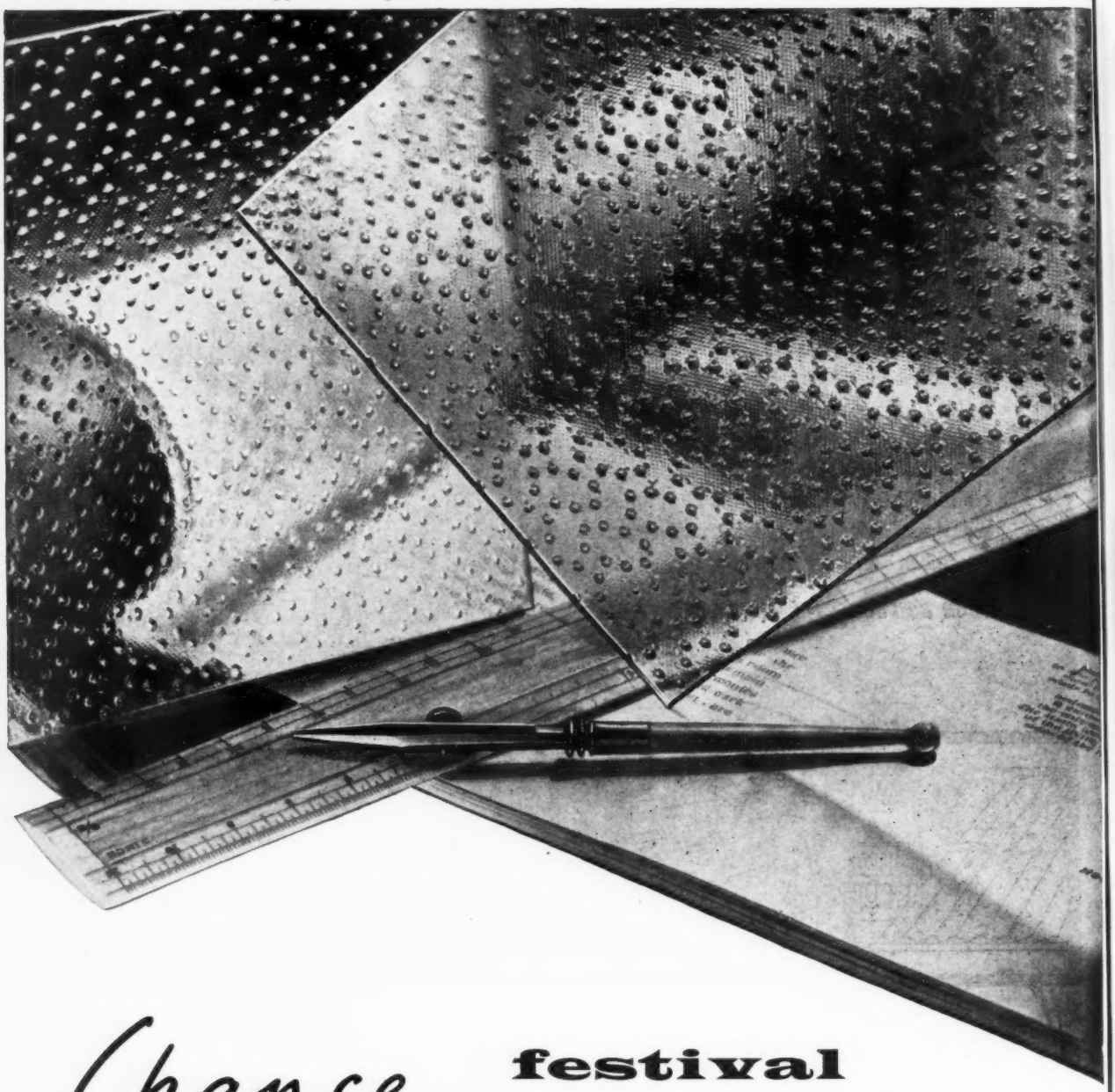
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# PLIMBERITE
## WOOD CHIPBOARD

**SIZE: 8 ft. x 4 ft.** **THICKNESSES: ½ in. and ¾ in.** **DENSITY: 45 lbs. / cu. ft.**

### PARTITIONING AND WALL LINING

Partitions can be single-skin or double-skin; in either case the boards are pinned to posts at about 4 ft. centres, and no other battening is required. For wall lining, construction is similar, using ½ in. board over stud framework at 4 ft. centres. Insulation is similar to that of timber.

### THE PLIMBERITE REBOND PARTITIONING SYSTEM

This system has been designed to provide a demountable double-skin partition of great rigidity and high insulation value. Rebated-edge ¾ in. PLIMBERITE boards are slotted into grooved timber posts which are held in position by PLIMBERITE REBOND screw jacks. Full details and working drawings are contained in the PLIMBERITE REBOND Booklet, obtainable on request.

### FLOORING

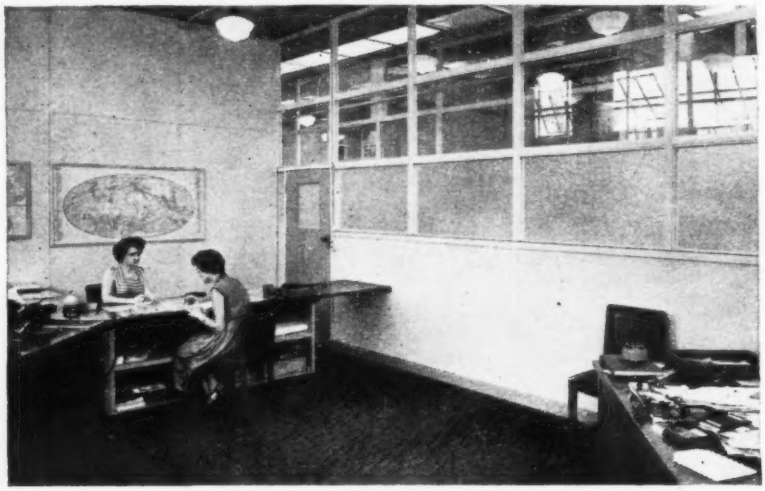
For an easily laid, hard-wearing floor, full size ¾ in. PLIMBERITE boards may be nailed over joists at 16 in. centres, or boards of either thickness laid over a solid sub-floor. Plugs or fillets should be let into concrete, and the boards screwed down at 24 in. centres; waterproof felt should be laid between the screed and the boards to prevent rising damp.

### ROOFING

Boards of either thickness may be nailed to joists or rafters, and should be covered with felt and asphalt or other waterproof covering. Care should be taken to protect the boards from the rain before the outer covering is laid.

### PLIMBERITE IN GENERAL JOINERY

In either thickness, the boards have many uses where large areas have to be covered without jointing. Cupboard doors, wide shelving, table tops and work benches are among the many applications. PLIMBERITE is also an excellent core for plastic sheet and wood veneers.



*British Nylon Spinners Ltd. were faced with providing additional office accommodation at very short notice, and after considering several possible systems, the Chief Engineer specified Plimberite boards in the ½" thickness mounted on rebated 3" × 2" timber posts at 4' centres. The partitioning had to have a reasonably high degree of sound insulation and present an attractive appearance. A further condition which had to be kept in mind was that the partitioning had to be of a type which could be easily taken down in the future. This work was carried out by the Main Contractor on site, Sir Robert McAlpine & Sons, Limited.*

### DECORATION AND TREATMENT

In general, the surface should be primed, using wood primer, before decorating with distemper, emulsion paint, or oil paint. If it is desired to fill the surface, this should be done after priming. Oil and spirit stains can also be used, as well as many other special preparations designed for treating wood.

*PLIMBERITE is stocked and sold by Timber and Builders' Merchants. The name of your nearest, main distributor, also samples and technical literature will be supplied on request.*

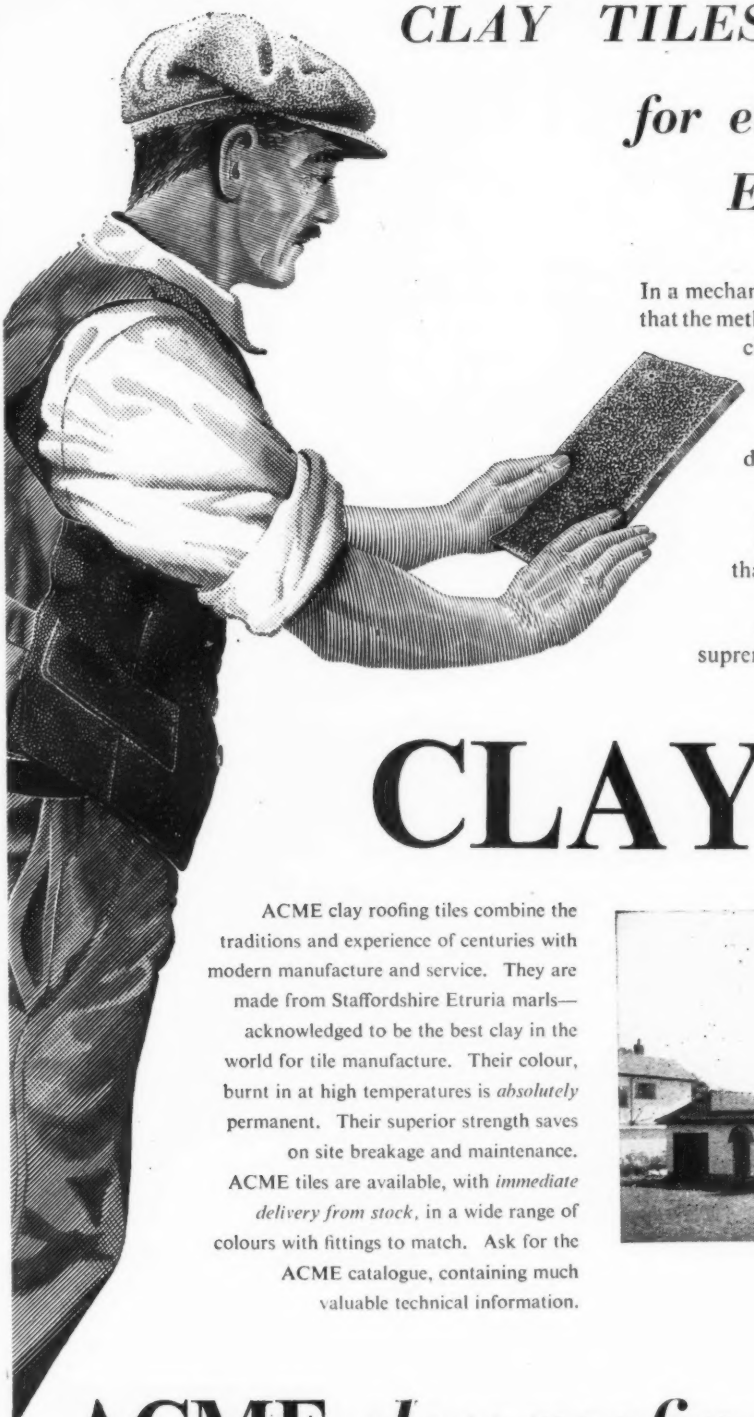
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PLIMBERITE
WOOD CHIPBOARD

L. 2128



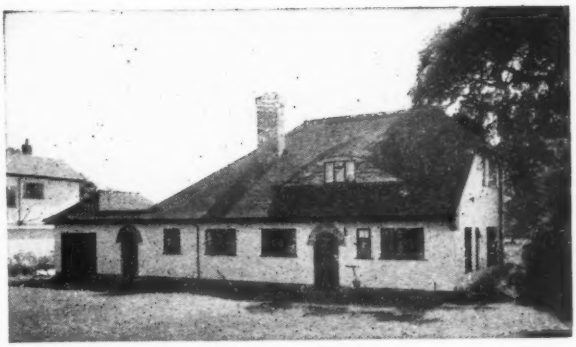
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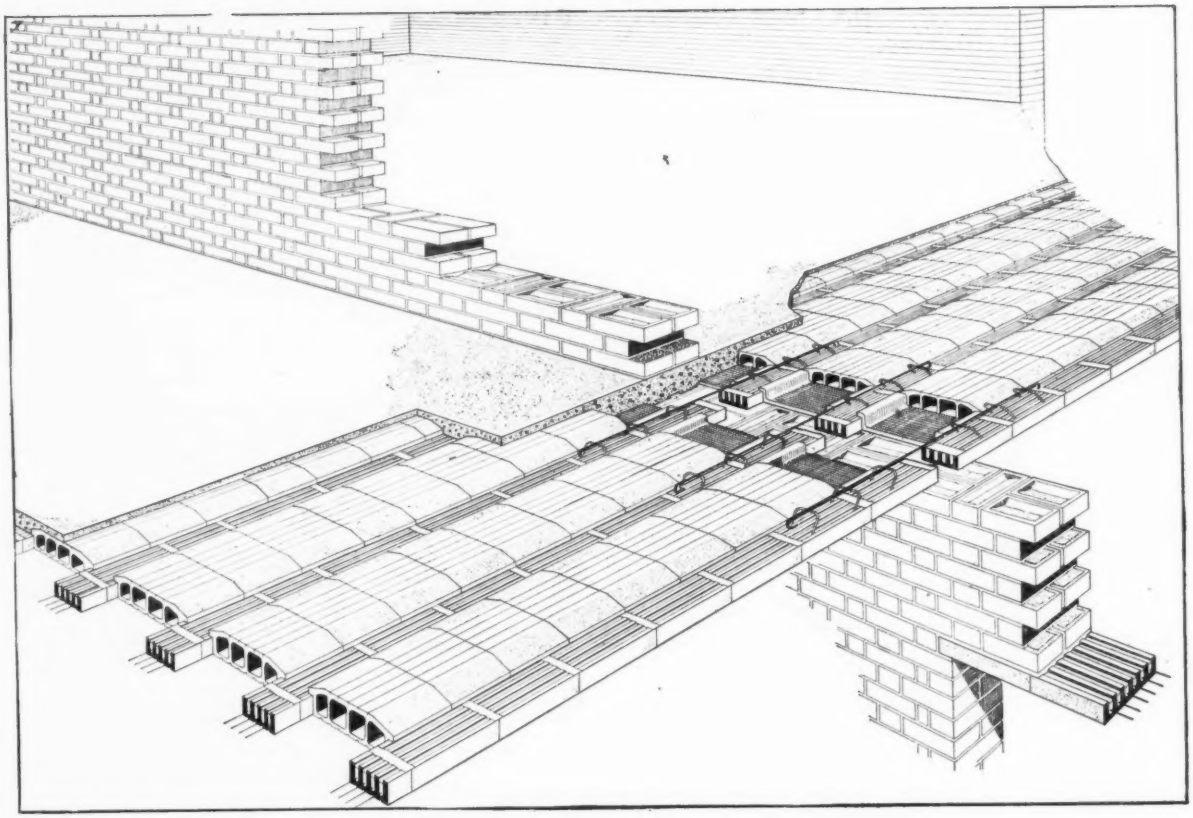
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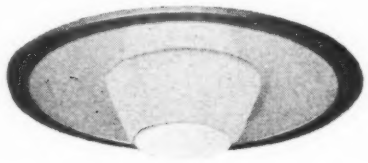
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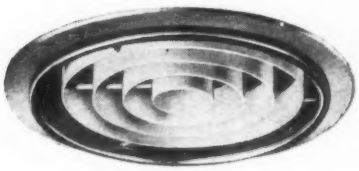
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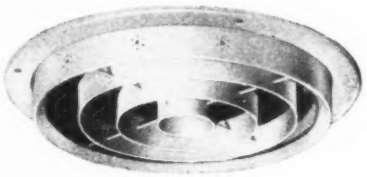
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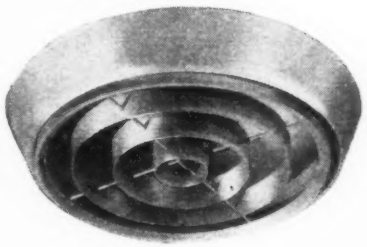




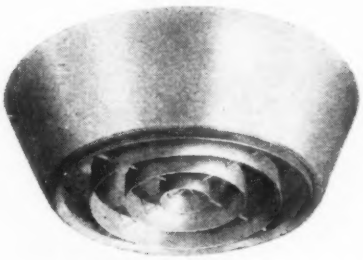


**8**

*ceiling units*









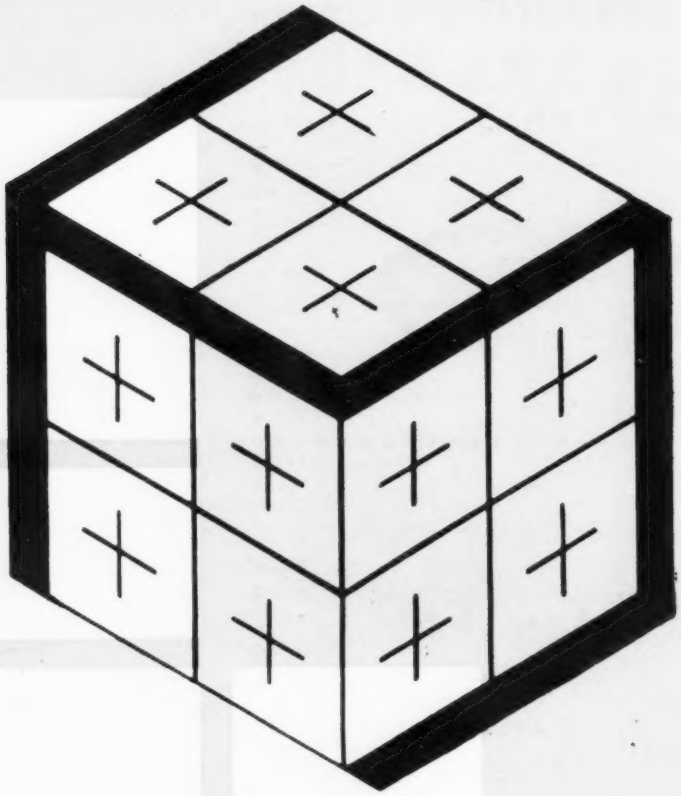
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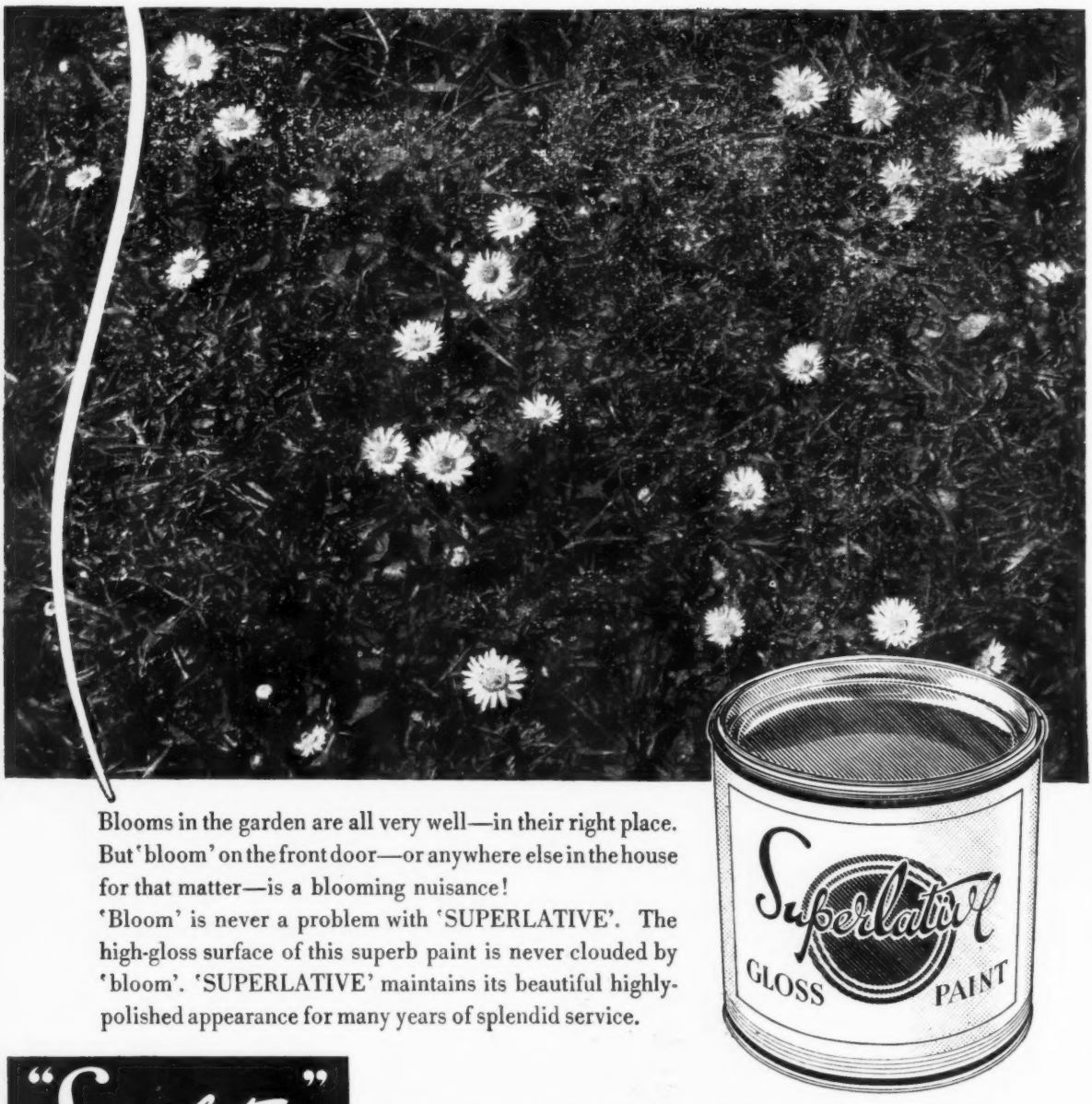
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In this fireplace wall, built in brickwork, the flue is shown expressed. Note also the brick risers to the steps on the right.

*Architects:*
Architects' Co-Partnership.

(*Photos: "Architects' Journal"*)



HOUSE AT
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10' | 11' | 12' | 13' | 14' | 15' | 16' | 17' | 18' | 19' | 20' | 21' | 22' | 23' | 24' | 25' | 26' | 27' | 28' | 29' | 30' | 31' | 32' | 33' | 34' | 35' | 36' | 37' | 38' | 39' | 40' | 41' |
| 14 | 7¼" | 3.0 | 32 | 30 | 28 | 26 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 7¼" | 3.5 | | | | 74 | 59 | 48 | 40 | 33 | 28 | 26 | 25 | | | | | | | | | | | | | | | | | | | | |
| 24 | 9¼" | 3.75 | | | | | | 77 | 68 | 57 | 48 | 40 | 35 | 30 | 27 | 26 | 25 | | | | | | | | | | | | | | | | |
| 28 | 11¾" | 4.0 | | | | | | | | | | 76 | 65 | 56 | 49 | 43 | 37 | 33 | 29 | 26 | 25 | | | | | | | | | | | | |
| 35 | 15¾" | 4.75 | | | | | | | | | | | | | | | | | 63 | 56 | 50 | 45 | 41 | 37 | 34 | 32 | 28 | 25 | | | | | |
| 41 | 15¾" | 5.25 | | | | | | | | | | | | | | | | | | | | | | | | | 41 | 37 | 34 | 31 | 29 | 27 | 26 | 25 |

*To co-operate with Architects who wish to avoid changing existing plans, production of the present Trofdek range will continue until January 1957.*

TROFDEK

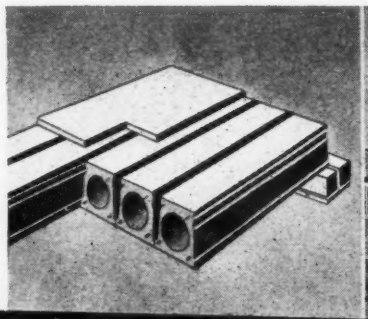
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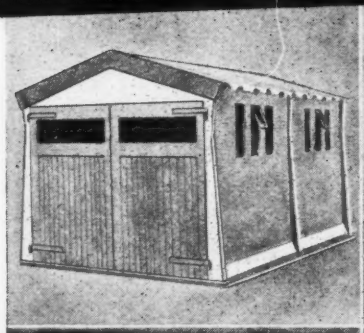


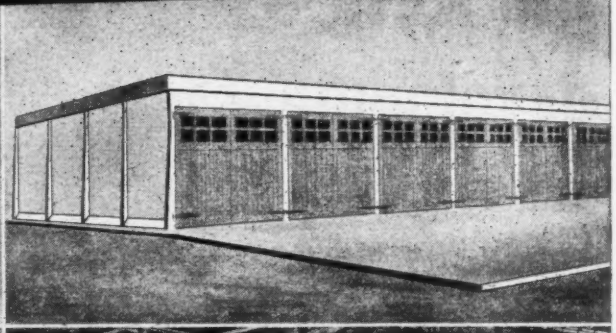


# MARLEY CONCRETE PRODUCTS

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**Portable Garages**
*Leaflet MC.1*

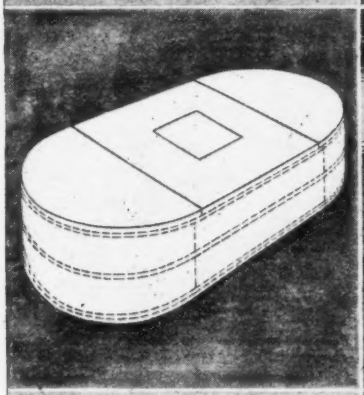
**MARLEY**
**Multiple Garages**
*Leaflet MC.2*

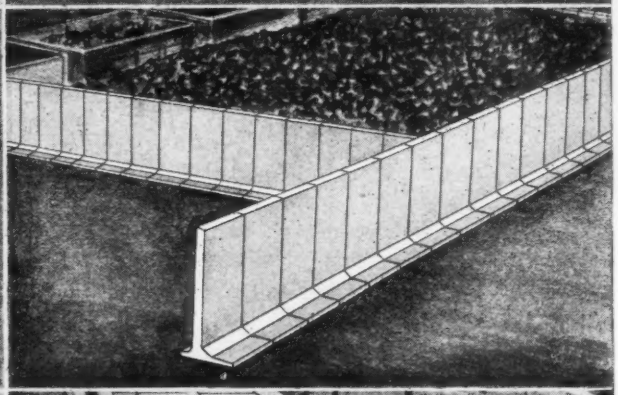


**MARLEY**
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**Storage Walls**
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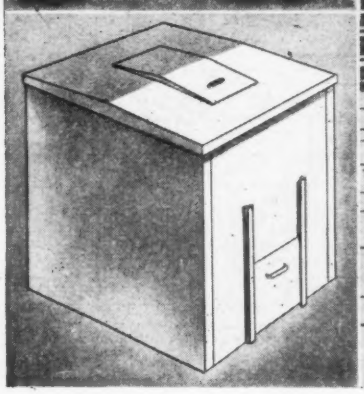




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*The Chairman's office, Wiggins Teape Group, Gateway House, E.C.4. Architect: W. J. Carpenter-Turner, A.R.I.B.A.*

# *Room for the chairman*

This office was furnished by Heal's Contracts Ltd. for the Chairman of the Wiggins Teape Group. The desk was designed in walnut as were the matching built-in wardrobe and bookcase. A Wilton carpet in celadon green tones with the green curtains and window seat covered in a heavy weave Heal fabric.

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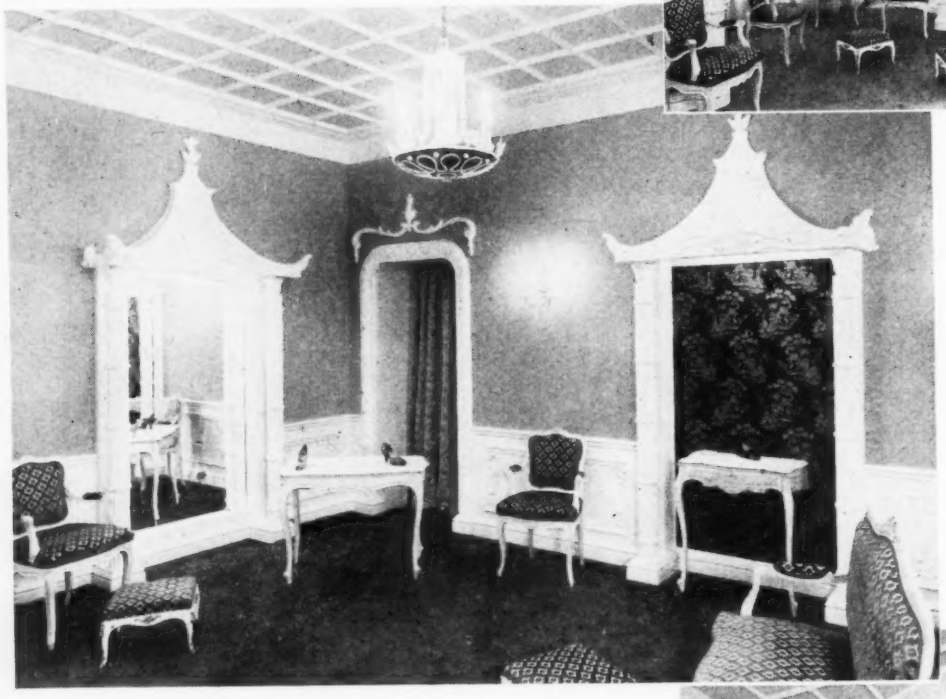
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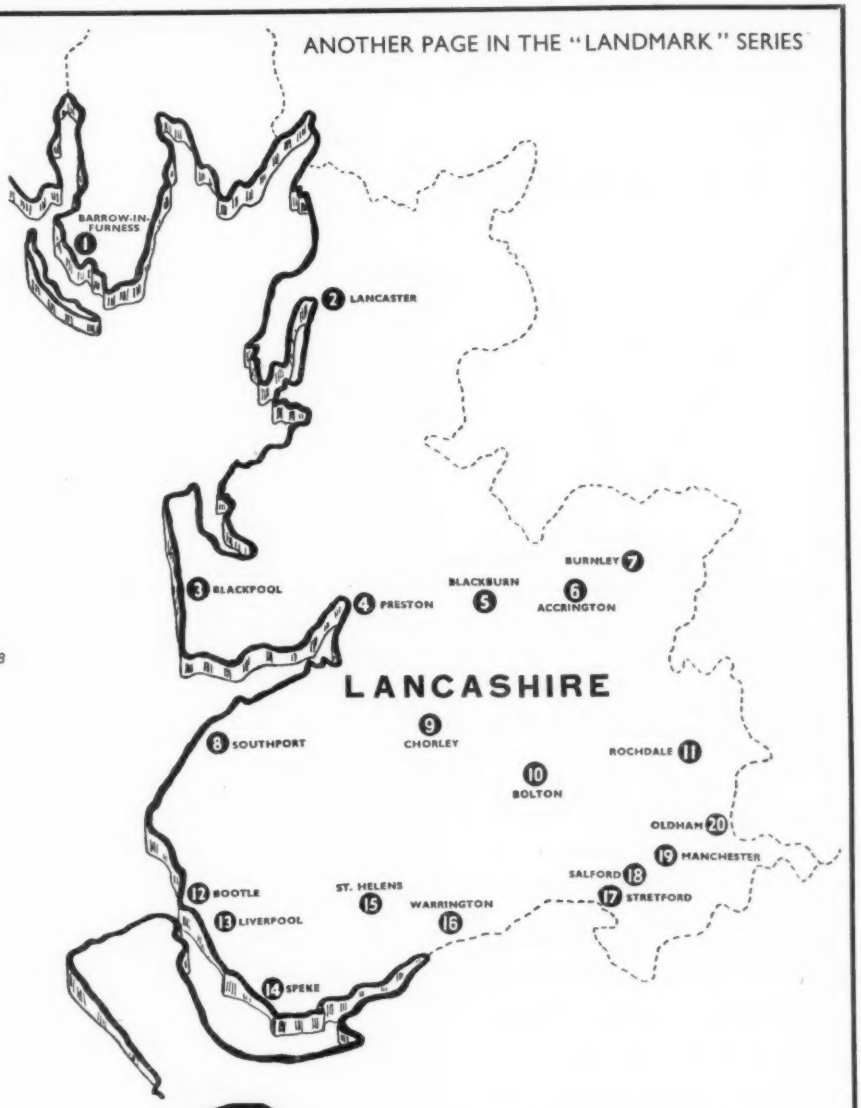
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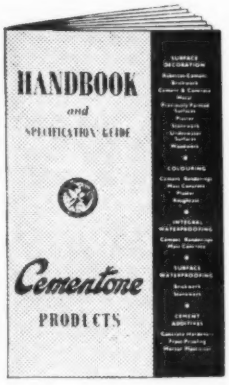
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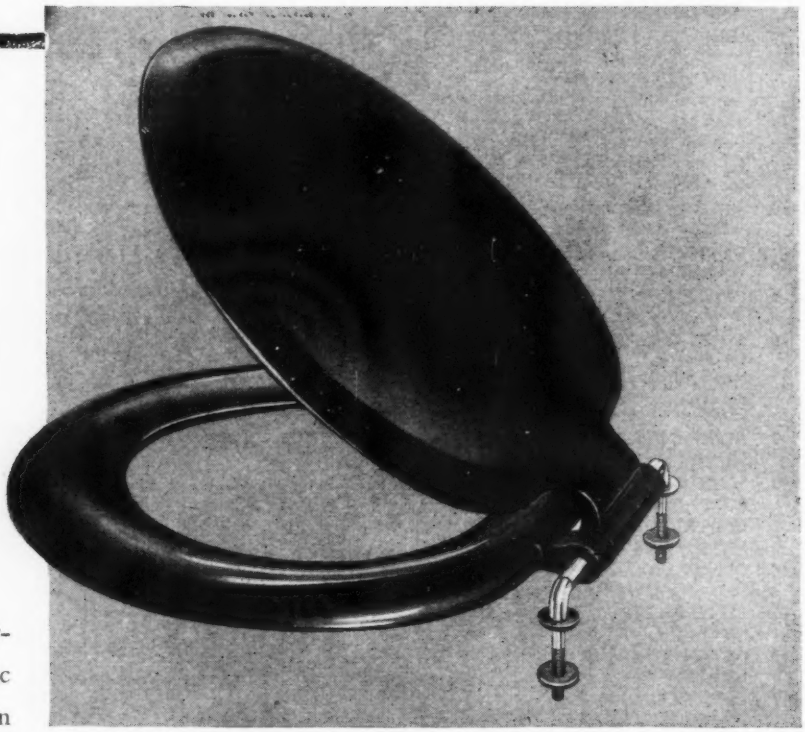
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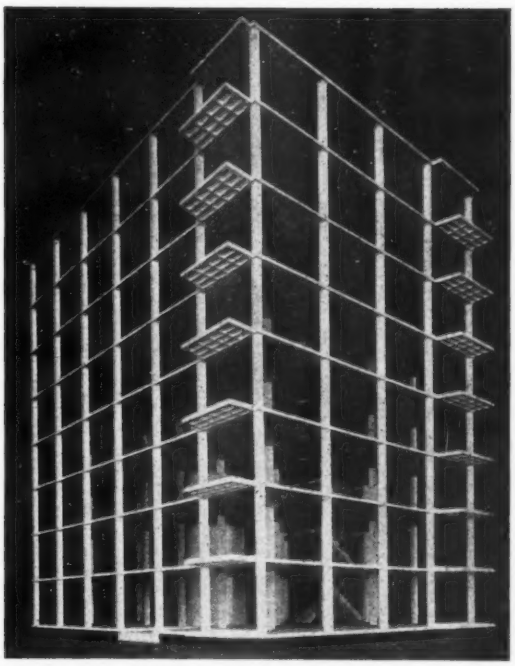


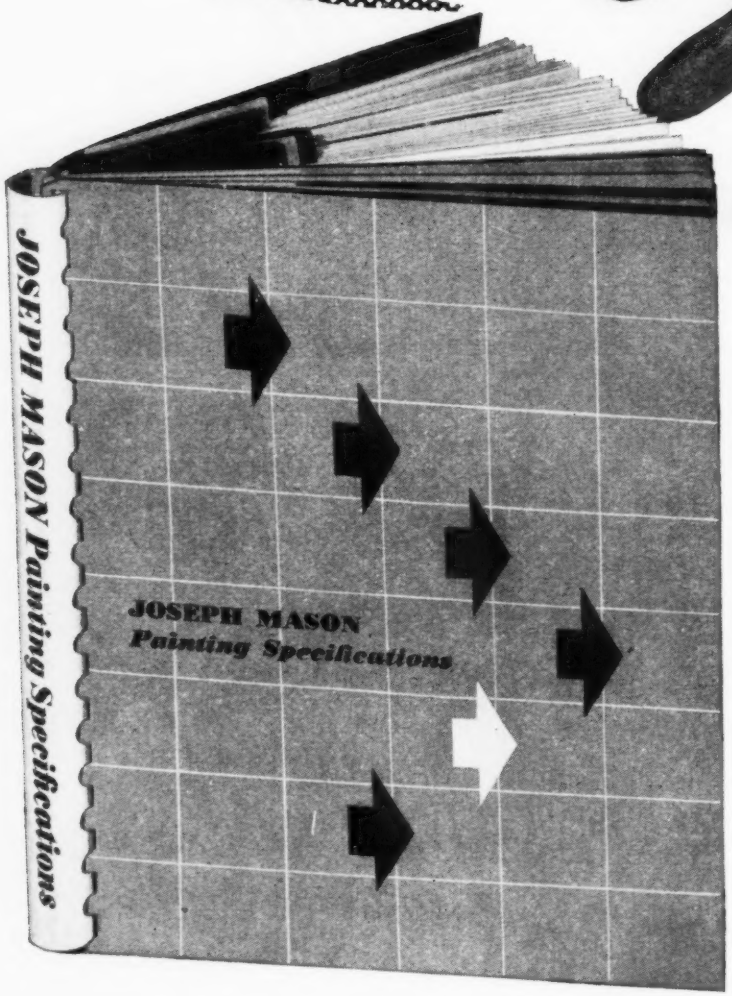
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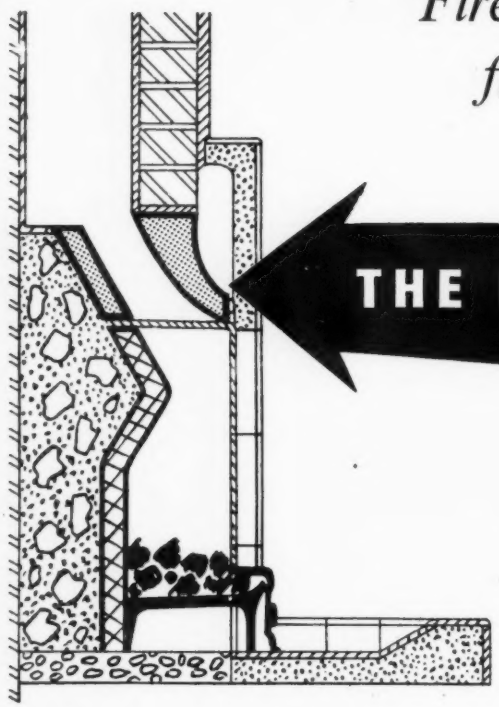
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# THE FINCH THROAT UNIT



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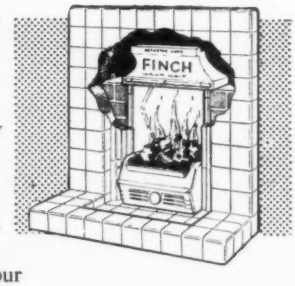
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# There's no end



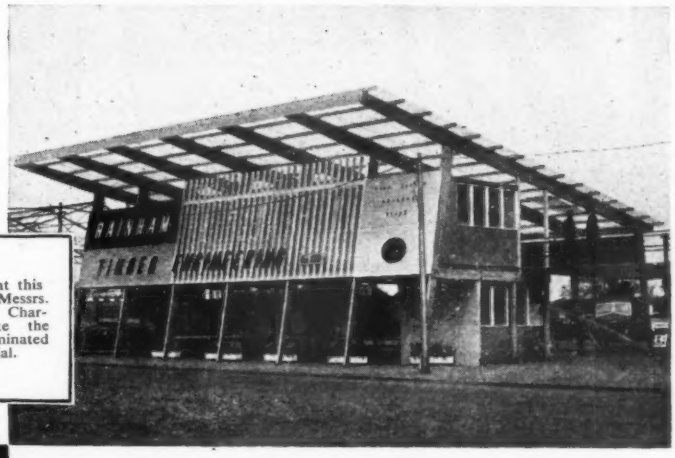
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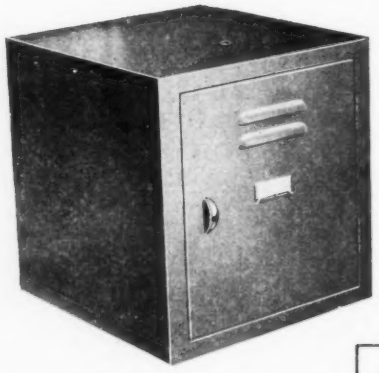
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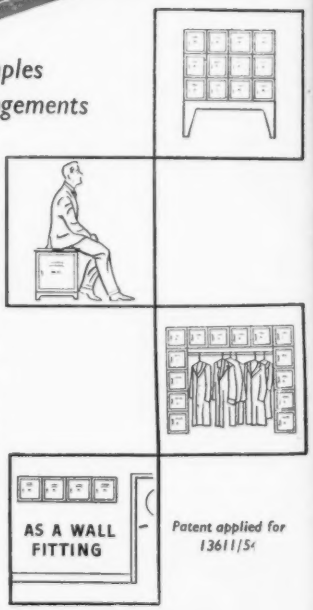
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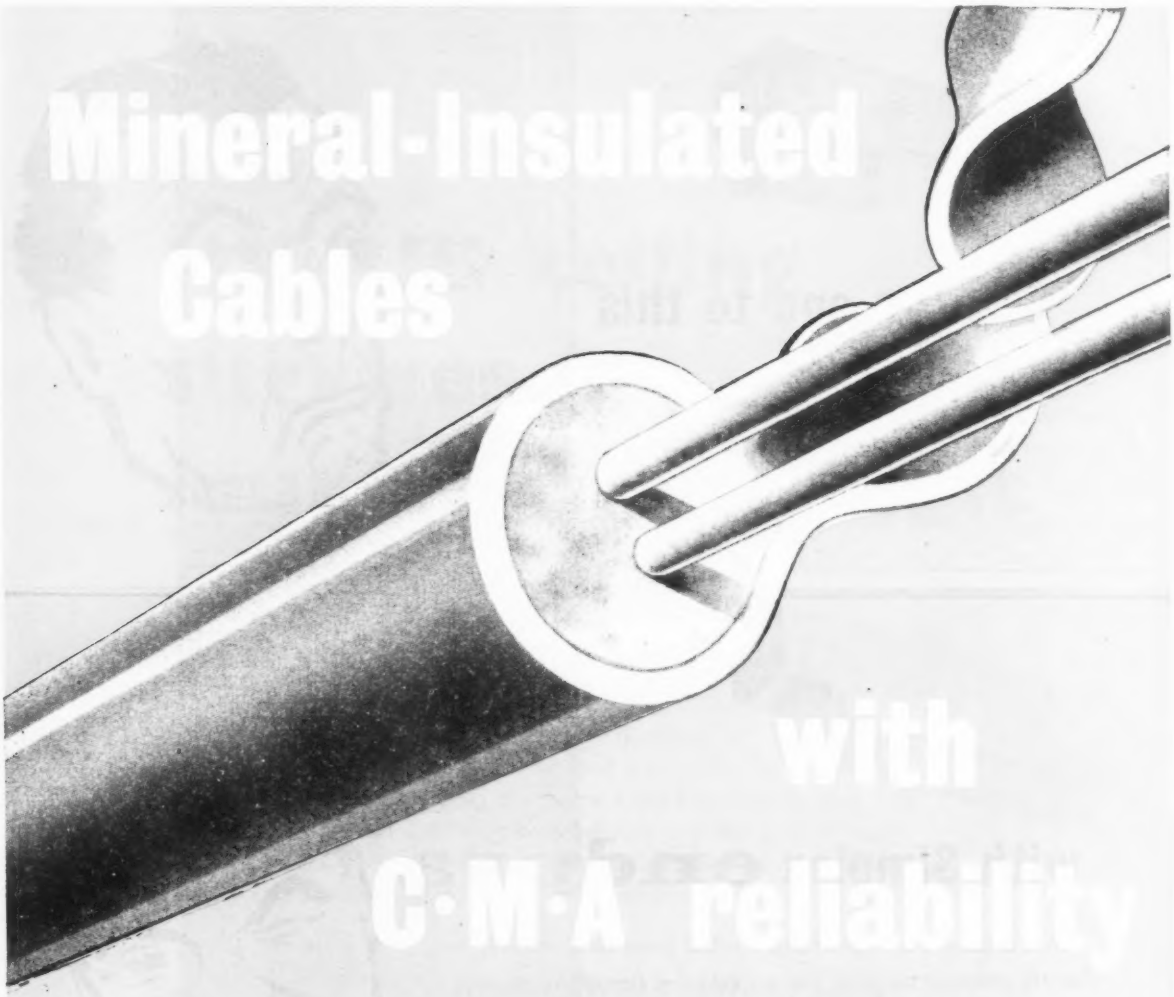
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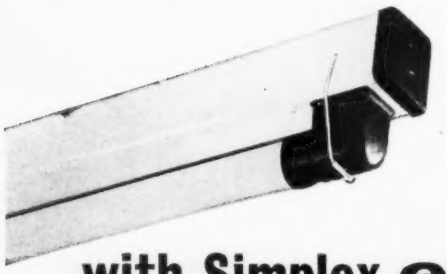
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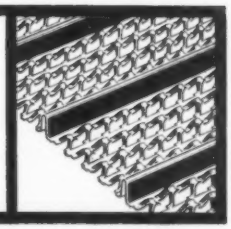
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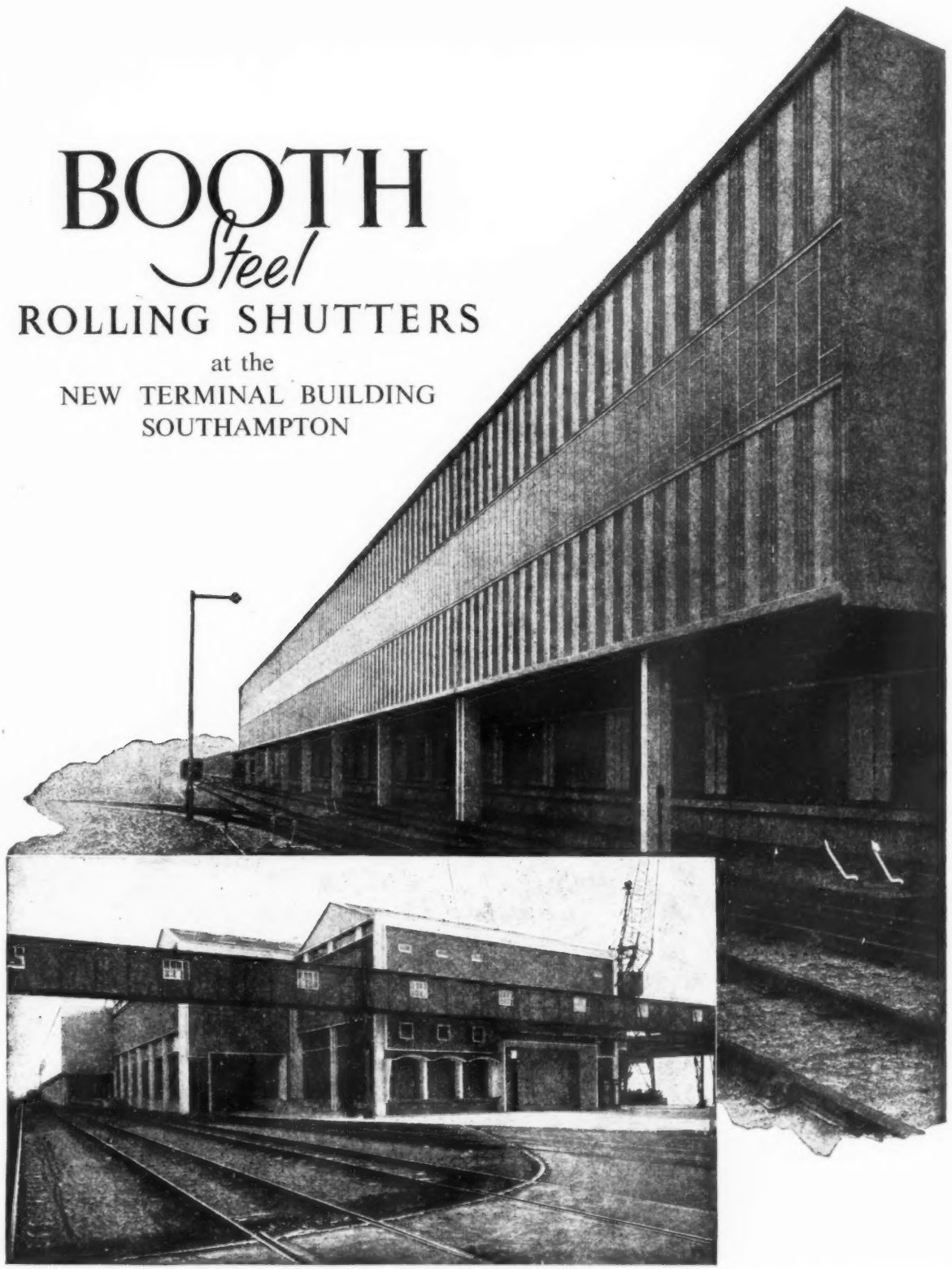
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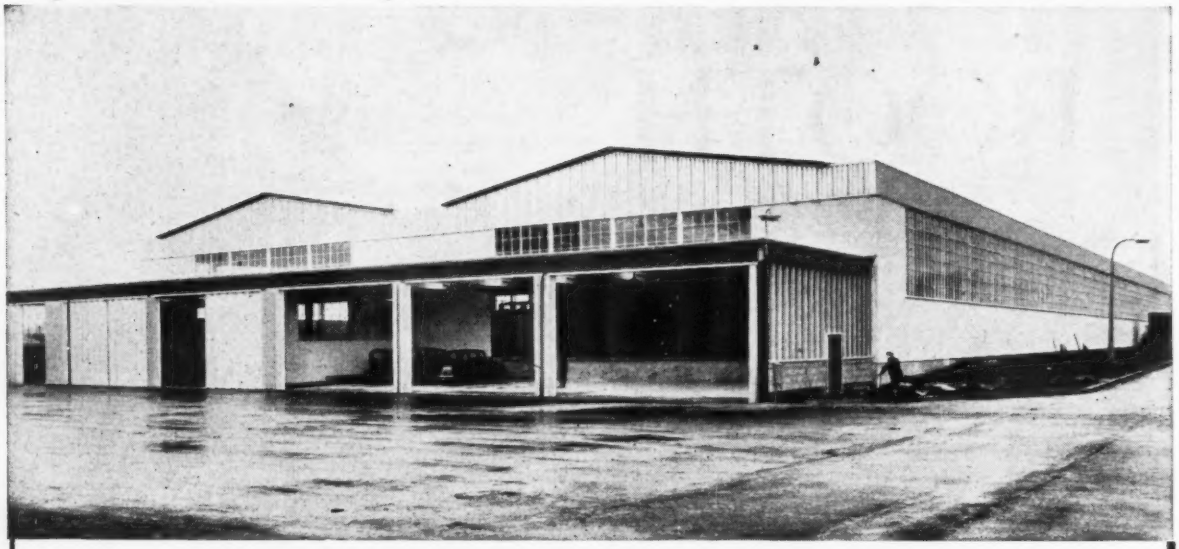
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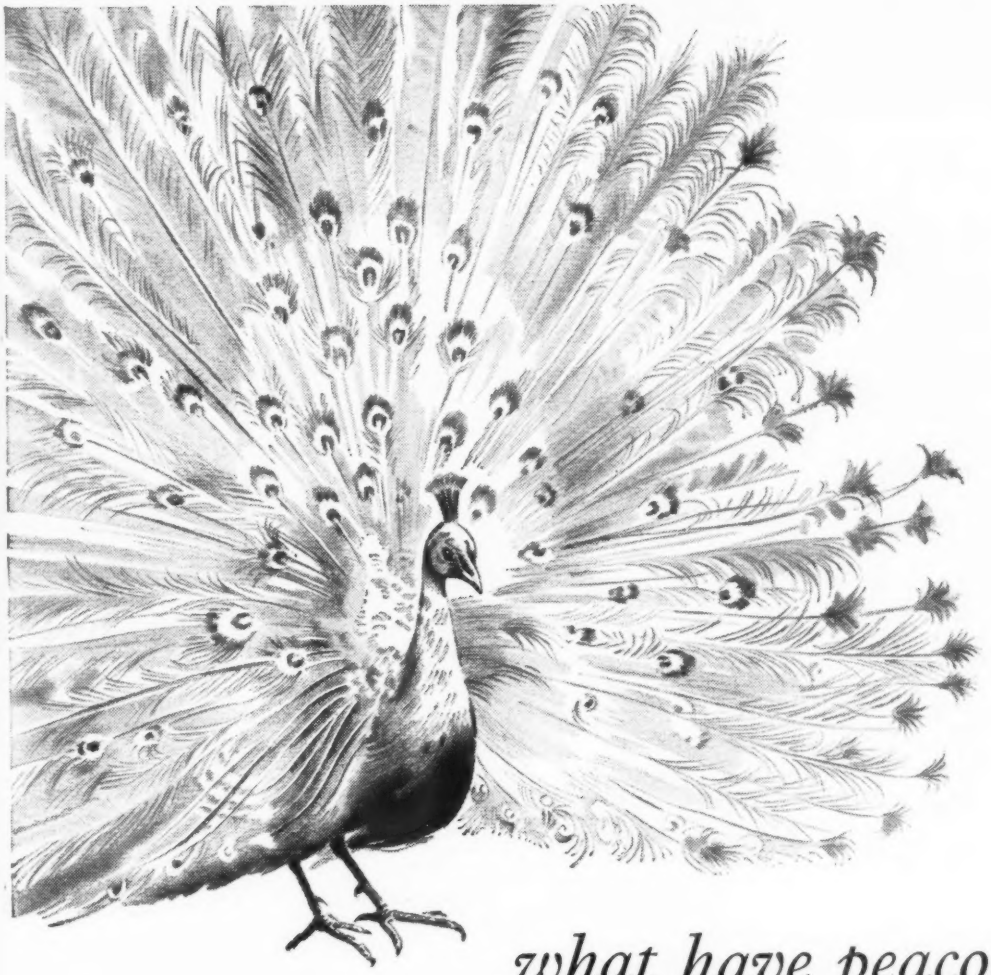
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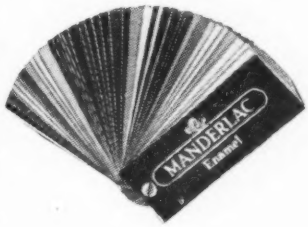
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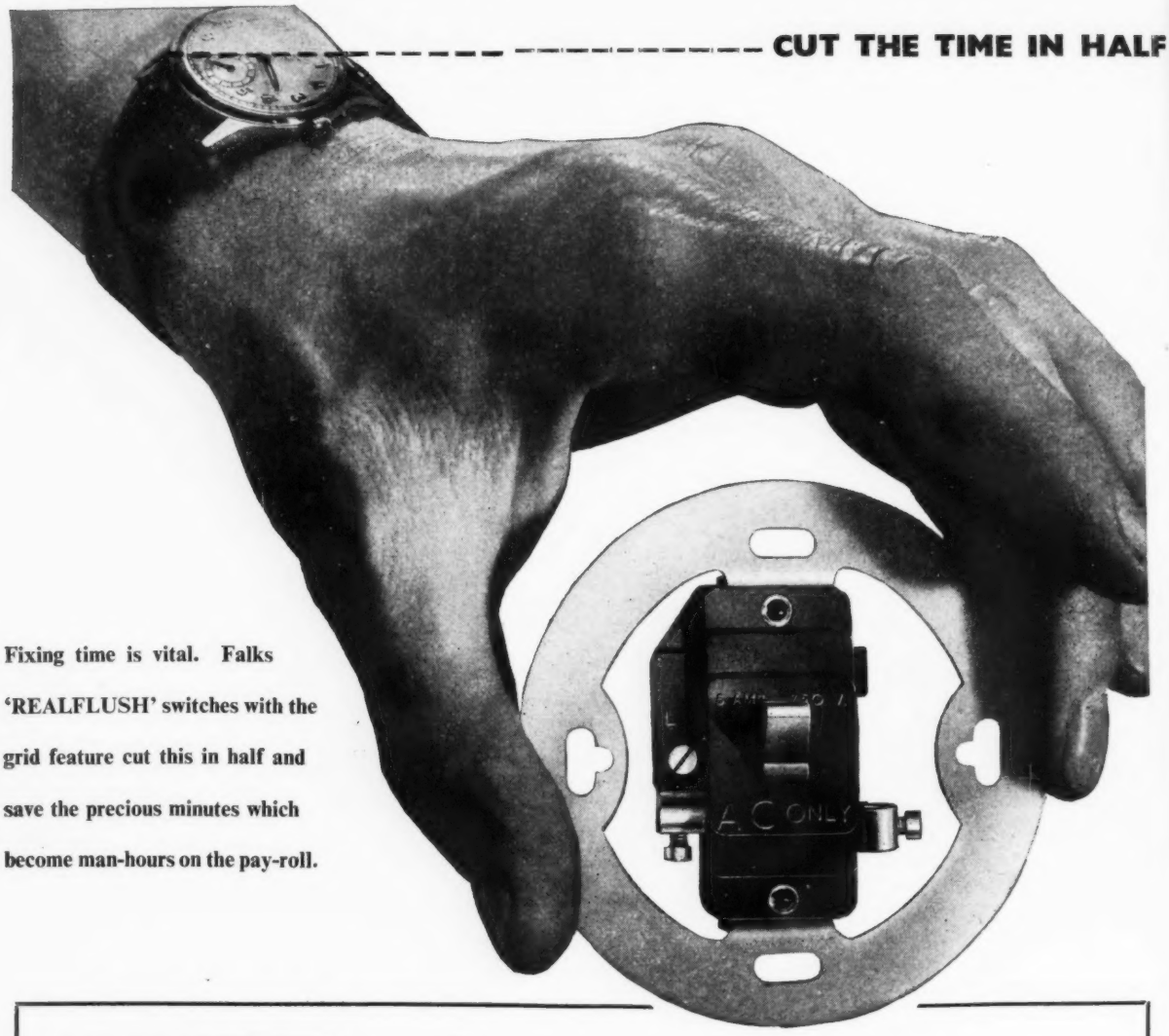

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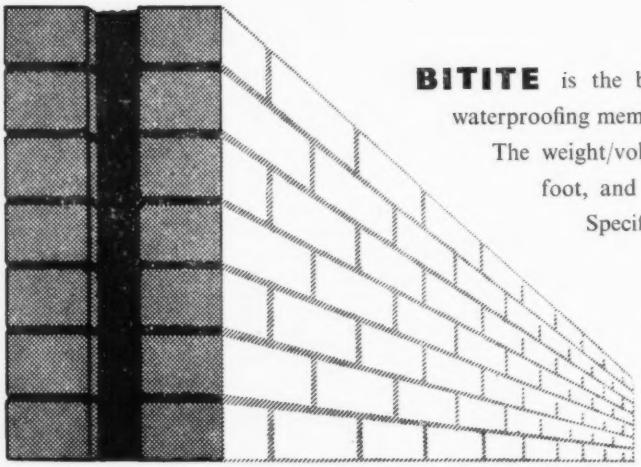
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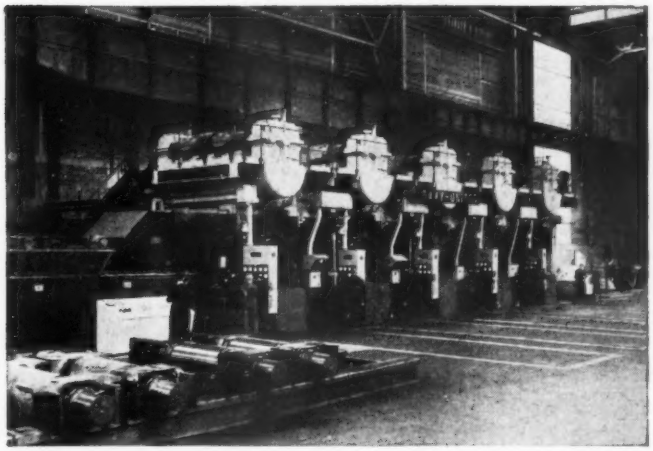
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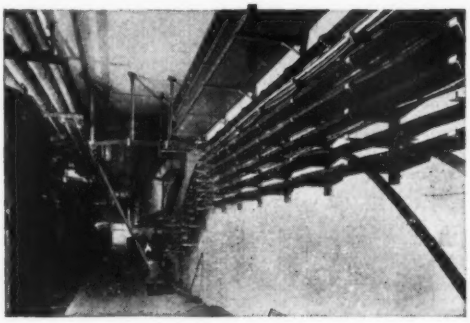

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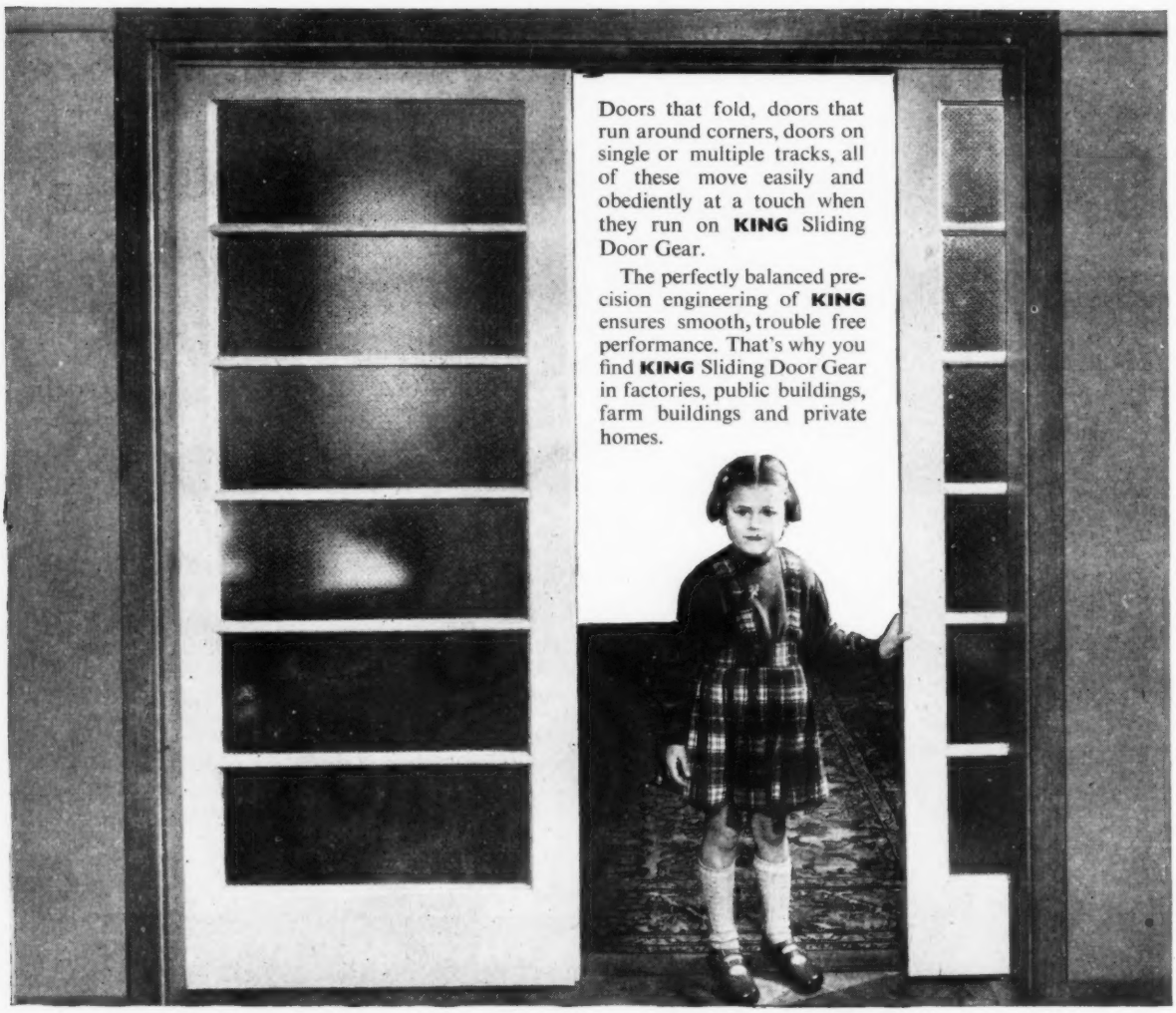
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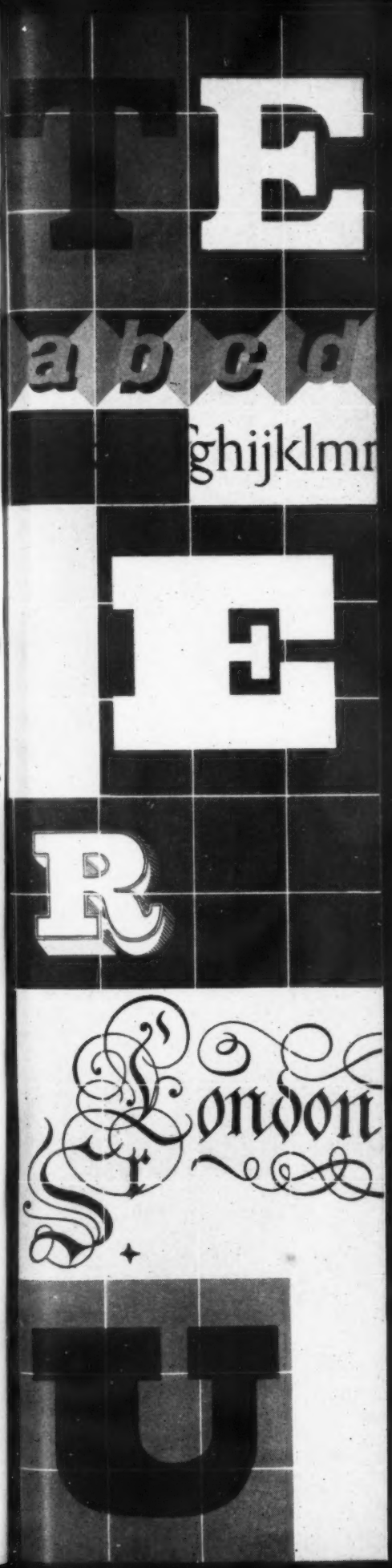
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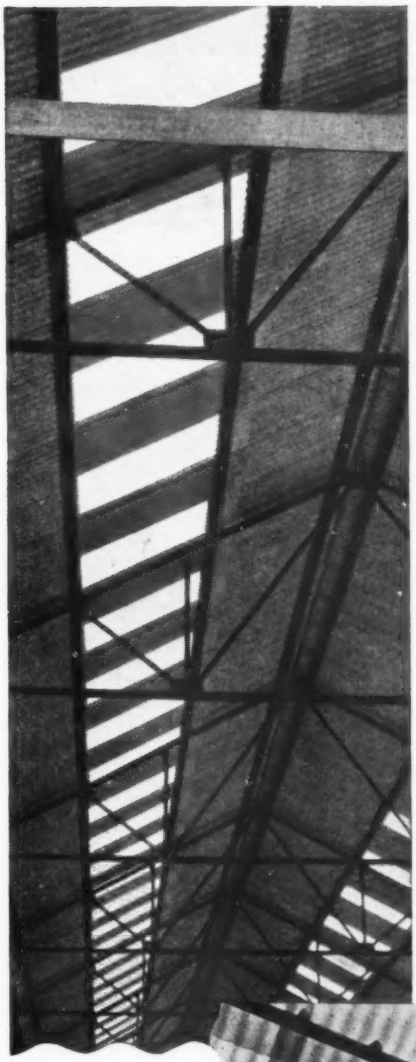
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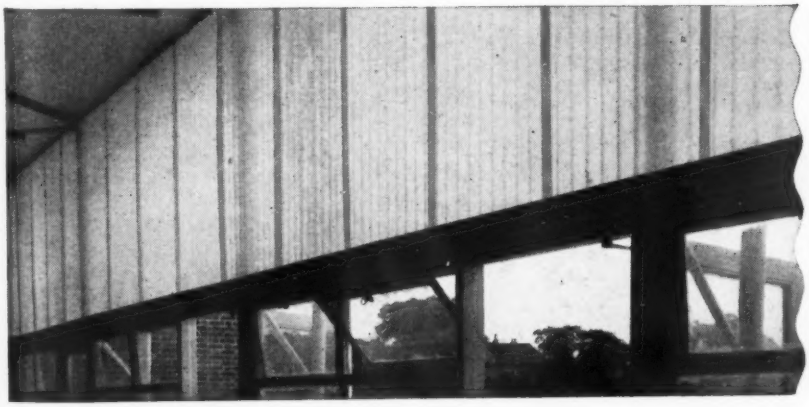
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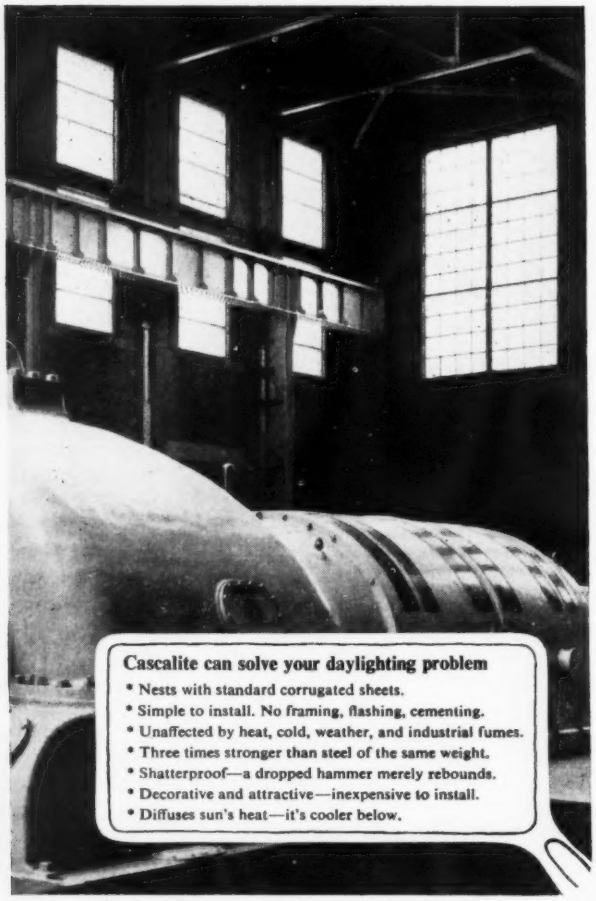
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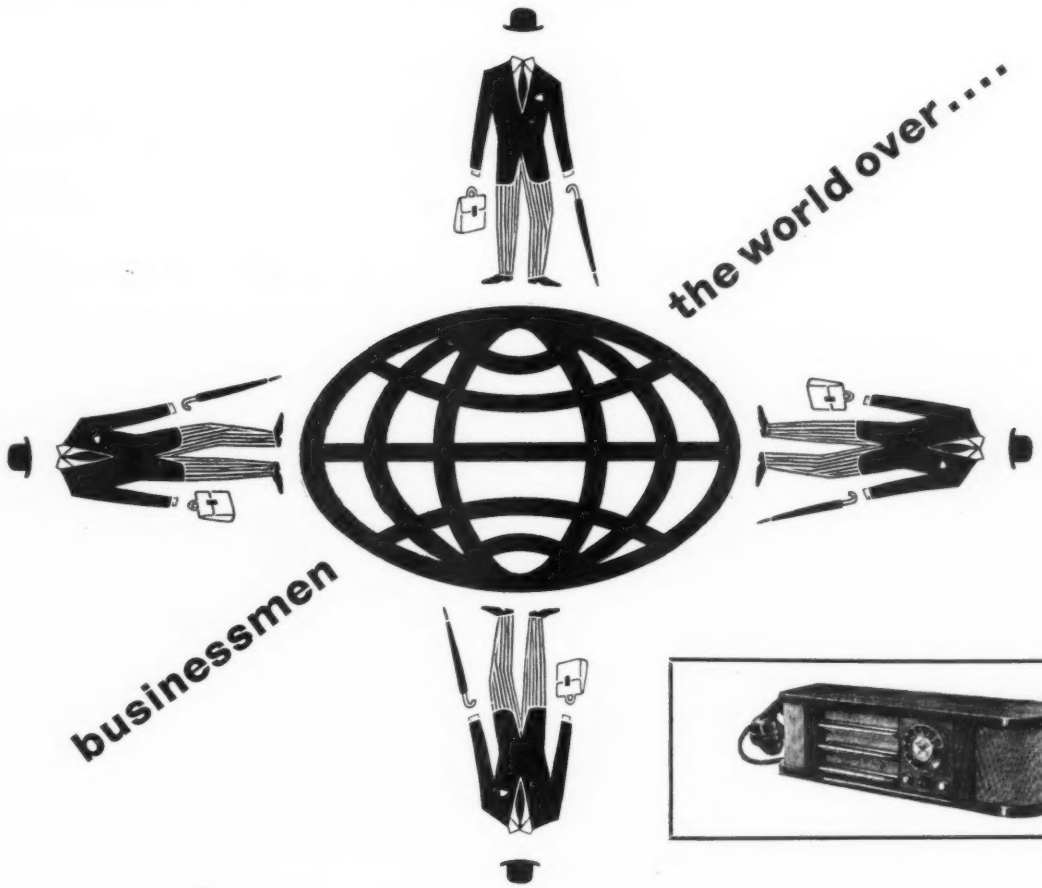



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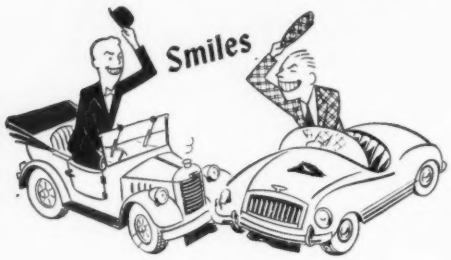
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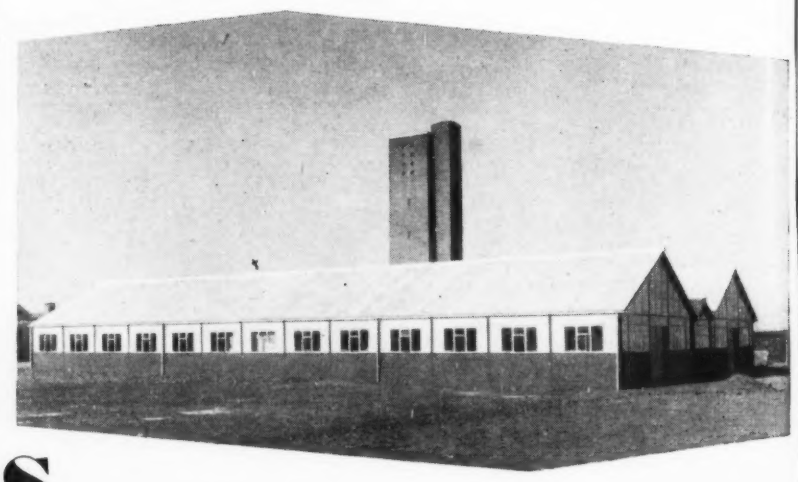
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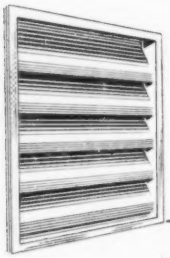
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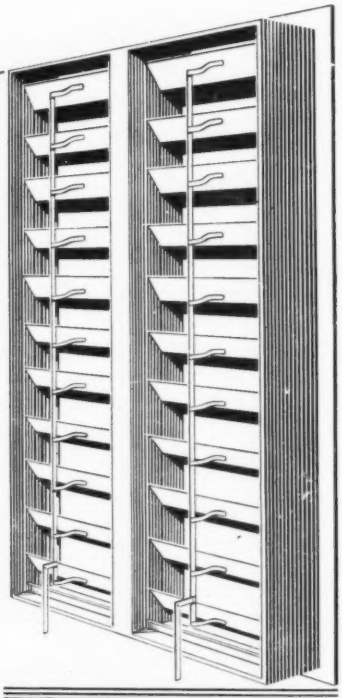
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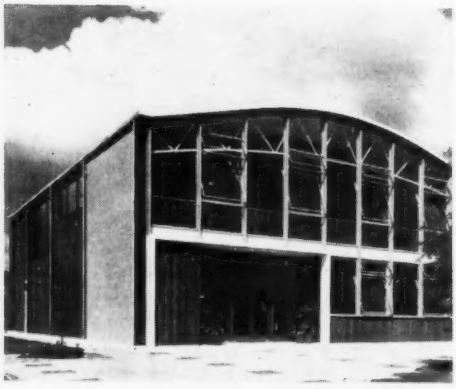



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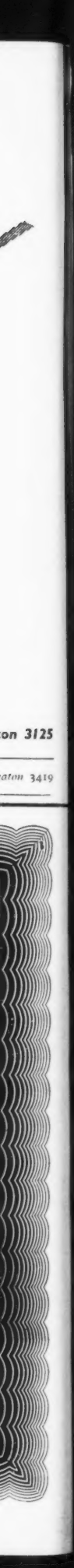
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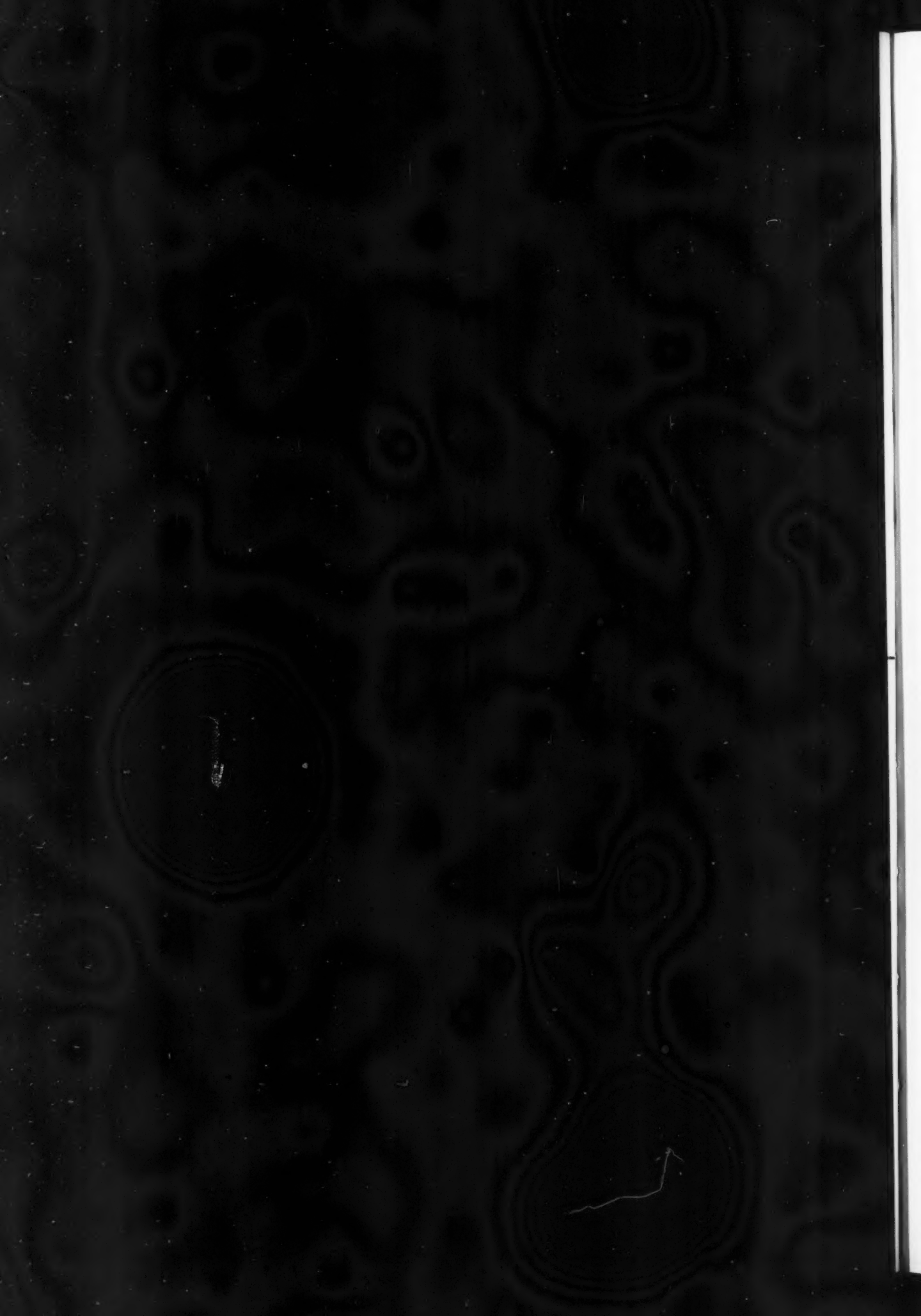
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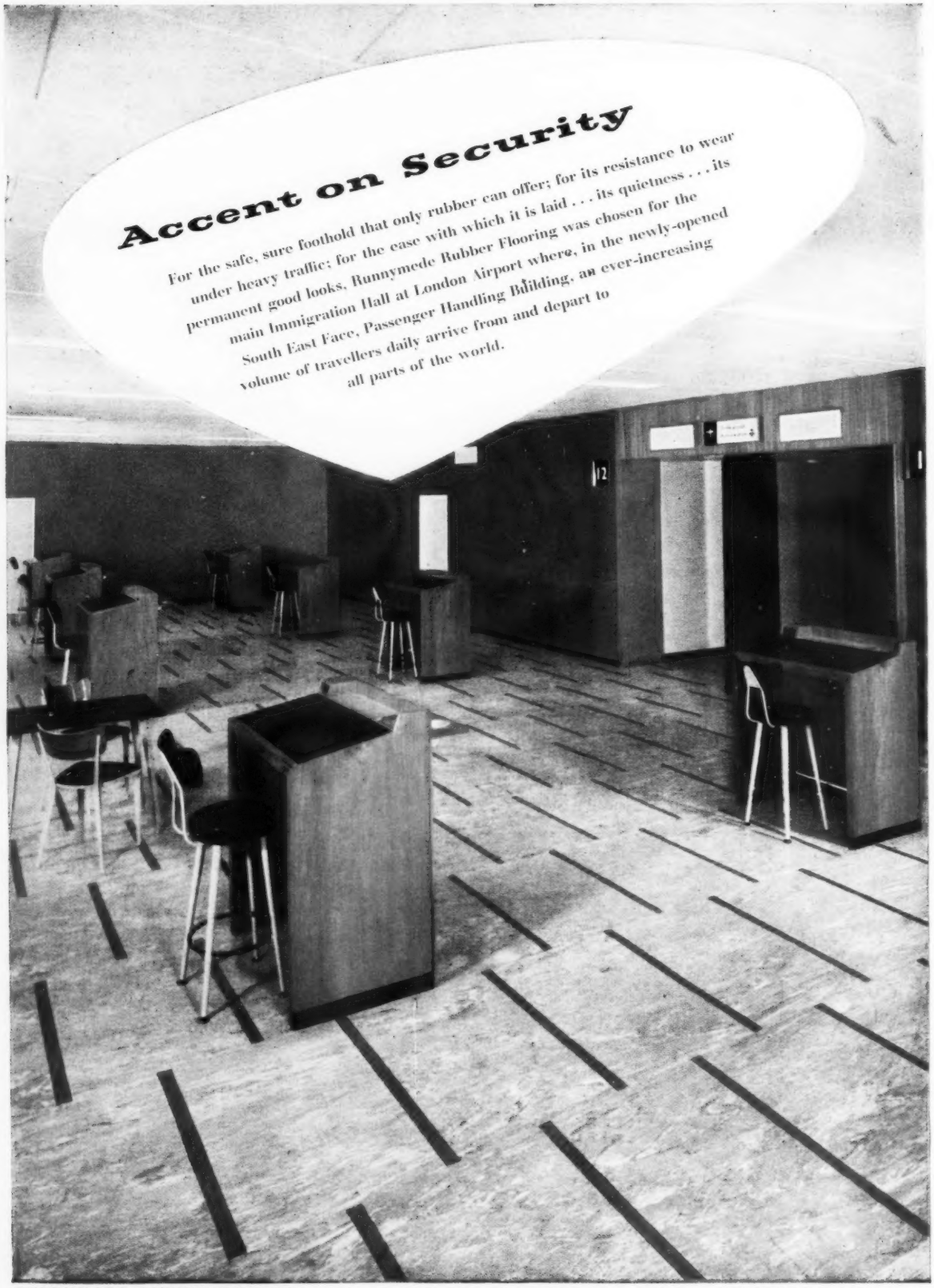
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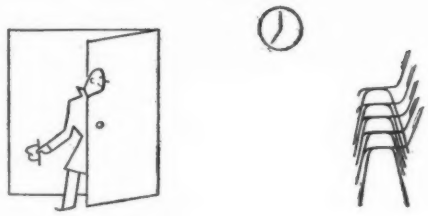
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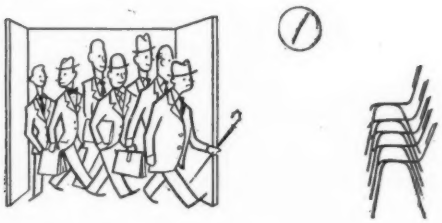
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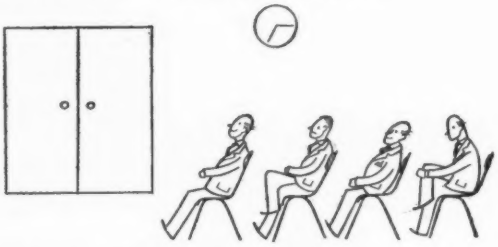


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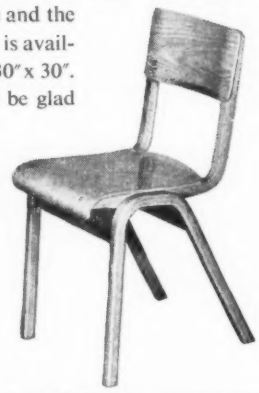
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THE ARCHITECTS' JOURNAL

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NOT QUITE ARCHITECTURE*

ANOTHER LETTER FROM A TRAVELLING ARCHITECT†

# *COCONUTS, HAIRPINS AND BANANAS*

Dominica, they said, was the promised land—if it had roads. They were making a road to Portsmouth. It was nearly finished. Would we go there—jeeps would carry us across the clay summit. How far was it? Twenty, twenty-eight, fifty-two miles. None of us could tell which it was. Everyone was very kind. The crash launch (*crash launch?*) would bring us back down the Leeward coast. We went.

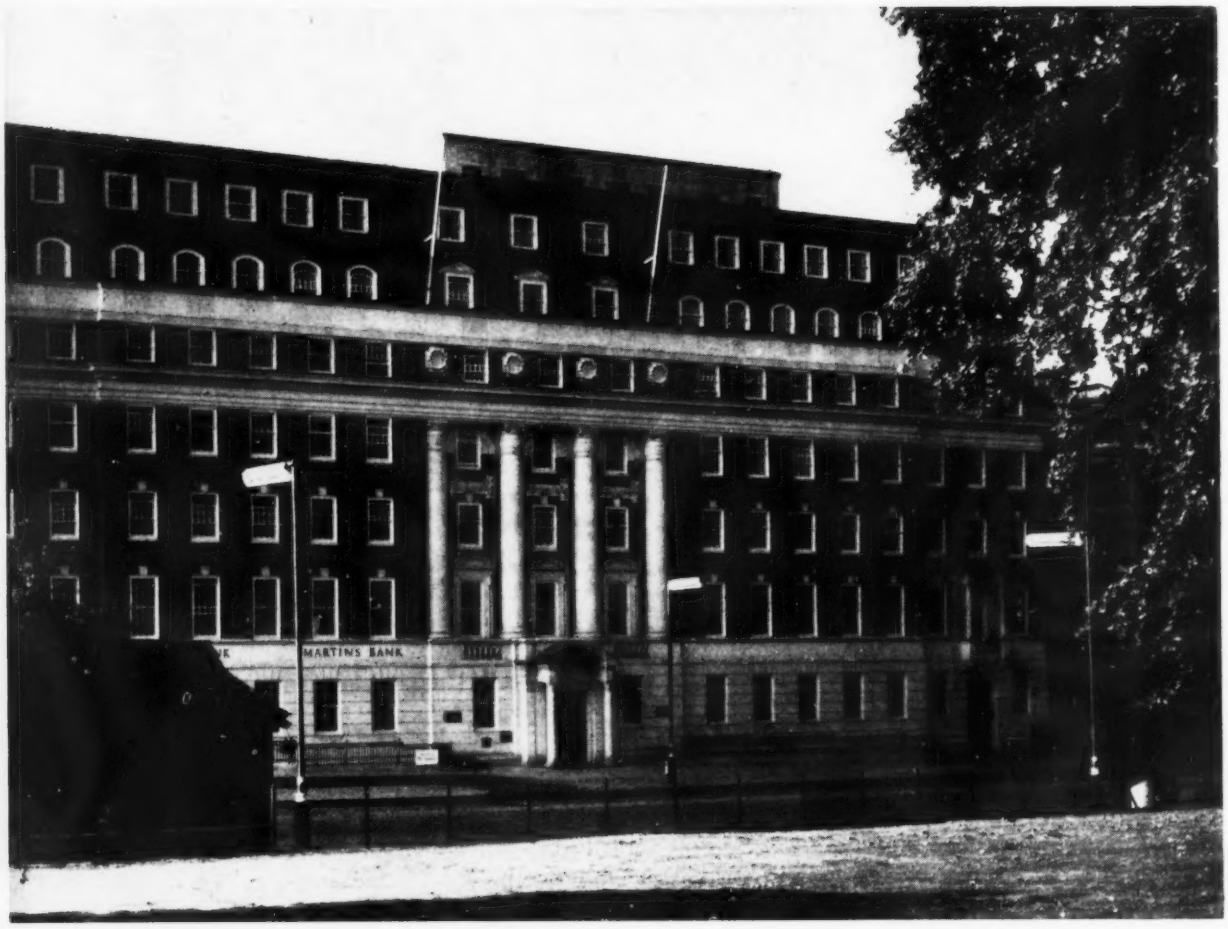
*

Coconuts gave way to bananas. We climbed and climbed and those familiar hairpin bends began to multiply. Huge, green, mist-topped ridges and cones appeared. The construction trucks, they said, had broken up the surface on this stretch. Our breakfast eggs, being scrambled inside us, told us too true, too true. Up and up and up. Tropical rain forest. "Three hundred inches a year . . ." said the man in the back, "just like Upper Burma—wonderful country. . . ." The rain came down in sheets, stopped, came down again. There was no motor cycle policeman in front (what had happened to him, we wondered and then stopped wondering), so we bit our lip every time our driver crawled round a hairpin bend without blowing his horn. . . .

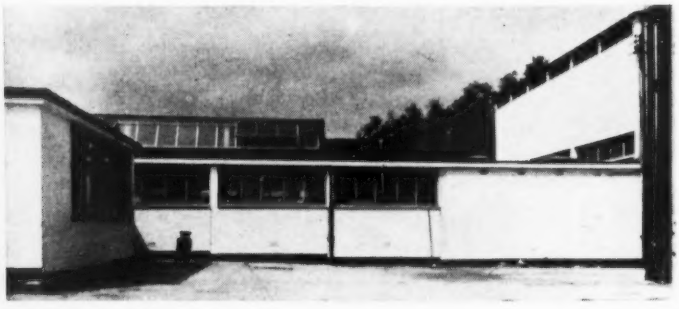
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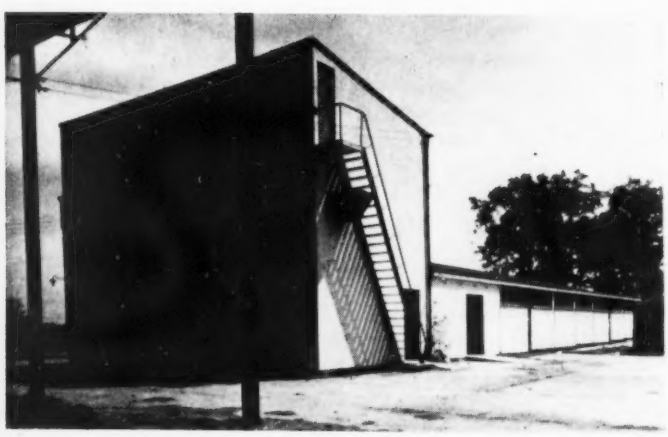
Then we changed into Land Rovers. Ours was new. This was the clay belt, they said. Over two thousand five hundred feet up. You'd go over your knees anywhere off this road. We concentrated on the road, which looked over-the-knees itself—never mind adjoining *terrain*. The Rover started. We ploughed on upwards. The Rover swung forty-five degrees right and left now and then and

*Meaning exactly what it says
†First one published on August 2




# *The Farmers Come To Town*





No rags or tags here, but a neo-Georgian gown, has been designed by Ronald Ward and Partners to dress the new headquarters of the National Farmers' Union, in Knightsbridge. It is, perhaps, appropriate that the most conservative of British industries should obtain for itself what may well turn out to be the last of the major post-war neo-Georgian excesses in central London. In the past the farmer's unsophisticated, but sure, taste resulted in this country's heritage of simple, functional, vernacular building. The tradition of good husbandry meant that farmers put their capital in sound building, as much as in livestock, equipment and crops. But the tradition is now weak. The manufacturer of food in the country, like the manufacturer of goods in town, takes little or no pride in his buildings. With present taxation as it is, low capital costs and high maintenance costs are better than the other way round. So, by and large, farm buildings today make little contribution to the landscape. The exception can be found, however, as in the case of the new dairy, cowhouse and mixing shed, centre left, and granary and cornhouse, bottom left, of a farm at Minety, Wilts., designed by John Stillman and Eastwick-Field. From these buildings it can be seen that some farmers recognize the value of good design—and contemporary design to boot. But who can say that the representatives of this so-called feather-bedded industry do not do better to lay their money out on ostentation in London than in simple sound building in the country? For where performance seems to fail may not the trappings of grandeur—when shown in the right quarter—bring prosperity?

rolled better than any launch. "You are in four-wheel drive?" we asked. "I'll say," said the driver. We minced along a precipice. "I remember in Kashmir," said the Chairman, "when I felt that if I didn't shut my eyes I'd scream all the way. So I kept my eyes tight shut . . . for something like an hour." We lit a cigarette and tried not to fumble.

*

Halt. Ahead a yellow cat, bull-dozer bucked backwards and forwards and twisted and turned. Silence in the L.R. The rain came down. A big man in a tin hat (service issue) and gum boots, sucked and squelched by, pausing to say something. "Bit of a landslide," said the man in the back . . . "we'll be clear in a minute or two!" We looked moodily up the glistening fifty degree clay slope to starboard and noted the boulders and undermined trees thereon. The gentleman in the dozer had not such an audience every day. His enormous machine jerked, roared and twisted. We noted that he was going to start another landslide if he was not careful. He did. A mere ton or so slithered down thirty feet and ranged itself to starboard. Another ton started a good way up but found no friends *en route* and silently joined our little lot. "At what point," we asked the Chairman, "did you start screaming—that day in Kashmir?" We thought this very funny until we noted our giggle was a little hysterical and checked it sharply.

*

The dozer disappeared. The tin hat beckoned. This car, we thought, will never move. But it did. We were off and downwards. But do not let non-Dominicans think that swinging forty-five degrees each way down hairpin bends has nothing to it. Next to shooting at lions and missing, there can be few pastimes less feather-bedded; and anyway Land Rovers have everything except safety belts and upholstery. We made it, through three miles of red clay, half butter and half porridge. There was tarmac again and, oh joy, big cars. All the same if you ever tackle the high clay in Dominica there's only one wonderful vehicle to use. You will remember?

*

A trifling thirty minutes, a trifle of two hundred hairpins and there were coconut palms, hibiscus, and frangi-pangi . . . and a long verandah with drinks. Lots and lots of drinks. Behind us were those mist-topped cones and ridges. Before us, just over the rim of the tumbler, was the ribbon of tarmac beside a royal blue sea and waving coconut palms. The road to Portsmouth was open.

AELIUS

## The Editors

## BETTER TAX FREE PENSION SCHEMES FOR ARCHITECTS

ON page 338 of this issue we publish an article on the new Finance Act permitting tax free pension schemes for those practising on their own or in non-pensionable jobs. At the end of this article the author suggests that if architects are to get the most out of this Act the RIBA should negotiate for the profession as a whole with the insurance companies. As readers are doubtless aware, the ABS has initiated an insurance agency with the Sun Life Assurance Society. This agency is nominally independent of the ABS (it is entitled the ABS Insurance Agency Ltd.) though it hands over such profits as it makes from agency fees to the ABS proper.

It was a logical and sensible move on the part of the ABS to arrange this, and the scheme is fully deserving of architects' support. At the same time it must be noticed that the Agency is with one company only and that the chief aim of the scheme was to provide funds for the ABS. This aim is not inherently incompatible with that of obtaining the best terms for architects who insure with it; but it must also be admitted that the ABS Insurance Agency Ltd. may not be in an ideal position to negotiate these terms. What is wanted is a new approach by the RIBA to the insurance companies, to be made on behalf of the profession as a whole. When the terms are finally agreed it will be possible for the RIBA and the successful company (or group of companies) to nominate the ABS as an Agency. By this means architects would be sure of getting the most out of the Act and more would patronise the ABS than would otherwise do so. As matters stand, the architect who wishes to take out a Retirement Annuity Policy has to make a laborious comparison between the terms offered by the ABS Insurance Agency Ltd. (i.e. by the Sun Life) and all the other companies, and he may end by having to make a distressing choice between self-interest and professional public spirit.

## HARROGATE AFTERMATH

The notable thing about *last* year's RIBA Conference ("The Organization of the Building Industry and the Architect's Responsibilities") was the strong feeling that "something should be done" about the issues debated. Something was—they were referred to the Joint Consultative Committee of Architects, Quantity Surveyors and Builders, whose findings, authorized by the RIBA Council, are in the August *RIBA Journal*

For the greater part they re-affirm the pious and unexceptionable hopes of the Simon and Robertson reports—"Indiscriminate competitive tendering is harmful to the industry; the builder should be allowed to tender for such sub-contractors work as he can do; builders' claims should not be fired at the architect all at once on completion; and that hoary old-timer—

the public should be educated not to make changes during the contract." Admirable advice all of it, but it only skirts the problem.

The newer ideas are these. A design-construction-price architectural competition *may* be held in Sheffield (like the "Chantier experimental" scheme at Strasbourg). The Joint Consultative Committee* are "trying to obtain suggestions" for simpler methods of quantity surveying, from their regional committees. A course on "Architectural Project Management" is to be held at the York Institute in 1957. There is a possibility of introducing a grade of tradesman, intermediate between skilled craftsmen and unskilled labourers. Lastly, on the Harrogate proposal for a cost information service they say: ". . . already, many architects and quantity surveyors are affording facilities for this kind of information . . ." (AJ cost analyses?) and ". . . the RICS are still giving further thought to the subject and the RIBA are being consulted."

The flavour of this *RIBA Journal* article is, that while the various issues remain on the agendas of various committees, the problems are being tackled. But many of the Harrogate (and Norwich) Conference resolutions are of a kind that require full-time team investigation. Now that these conferences are taken more to heart, can we not desire more thorough and swifter means of putting their resolutions and ideas to the test?

* The committee responsible for investigating some of the issues examined in the Robertson Report on Tendering Procedure (1954).




NO REQUIEM FOR CIAM

Reports of the death of CIAM appear, Mark Twain-wise, to be exaggerated. Nevertheless, it does appear that this organization, which was such a figurehead to modern architecture throughout the slump, the war, and the immediately post-war chaos, needs patching up. This came to a head dramatically at the recent Dubrovnik meeting. A detailed report appears on page 332. No doubt an official report will follow when the Council and delegates have met again in the spring.

*

ASTRAGAL knows that for some time members inside CIAM shared his opinion that its organization was getting wormy, its programme dog-eared, and its membership overloaded with pillion-passengers who only came along for the ride.

*

If the new CIAM, or whatever it calls itself after overhaul, can set itself up on a foundation of mid-century ideas, and forget about its palmy days at La Sarraz, it might once more justify its title of *Congrès Internationale d'Architecture Moderne*, and contribute some usefully out-of-the-run research to our present situation, instead of repeatedly mummifying itself in Charters of this and that.

ARCHITECTS MAN THE PUMPS

Architects who can't get to every bun-fight that goes on, and have to rely on reports in the JOURNAL and the journals, are probably scratching their heads over Sir Patrick Abercrombie's references to "Pompeii architecture—standard architecture of the day" in his recent AA prize-giving speech, as reported in the AA Journal. To deliver you from bewilderment, let me hasten to say that what Sir Patrick actually referred to was *Pompier* architecture. It seems that our distinguished contemporary in Bedford Square can't read his own notes.

*

However, ASTRAGAL is still faintly bewildered. He has always believed that *Pompier* meant a kind of blousy classicism, like French Academic history pictures, or the Admiralty Arch, and that it takes its name from the fireman-type (*Pompier*, a fireman, according to my dictionary) helmets worn by characters like Britannia, Julius Cæsar or Civic Virtue. But Sir Patrick says it means "pump-water" as opposed to the pure spring of original invention; the routine, purified, standardized, faintly-chlorinated product which can be pretty good in a stereotyped sort of way, like municipal housing. We can't all build Coventry Cathedrals, he says, but a lot of us are going to have to lay on municipal supplies, and the fact that they are standardized need not make them any the worse. A noble thought, but somehow *Pompier* doesn't seem the right label to tie round its neck.

HOLLYWOOD DOES IT AGAIN

Los Angeles is more of a nightmare than a city and has expanded so greatly in the last twenty years or so that, in the last war, its boundaries were staked by cynical G.I.s all over the South Pacific.

*

It does, however, if ASTRAGAL'S rather hazy memory of the place serves him correctly, have one saving grace: the cliffside spine of Sunset Boulevard and the fine Hollywood Hills. Some twenty years back the chain grocery store millionaire, Huntingdon Hartford, acquired for a comparative song 200 acres or so of virgin land in this area (now surrounded by the growing city) with hills, canyon and all the trim-

mings. Now Mr. Huntingdon Hartford has sprung into the news. It would appear that he has had second thoughts about the FLW scheme he once commissioned for the site and that he has become more Social-Conscious. He has now acquired a design from a Miss De Henriquez for a Hollywood civic centre.

*

Miss De Henriquez is a sculptor "who loathes abstract art" (a point on which she seems to agree with Mr. Hartford, since this civic centre is to be a "military H.Q. from which to fight modern abstract art"). She therefore found it necessary to call in the services of a real architect. Having recently met the Hon. Claude Phillimore, the son of the 3rd Baron Phillimore, she naturally thought of him, and who could be better? Not only does Mr. Phillimore belong to a class and country assumed to be traditionally antagonistic to modern art, but he has made quite a name for himself as an energetic member of the Georgian Group and as a consultant specializing in the reducing of the great country houses of the not-so-rich English gentry to manageable proportions.

*

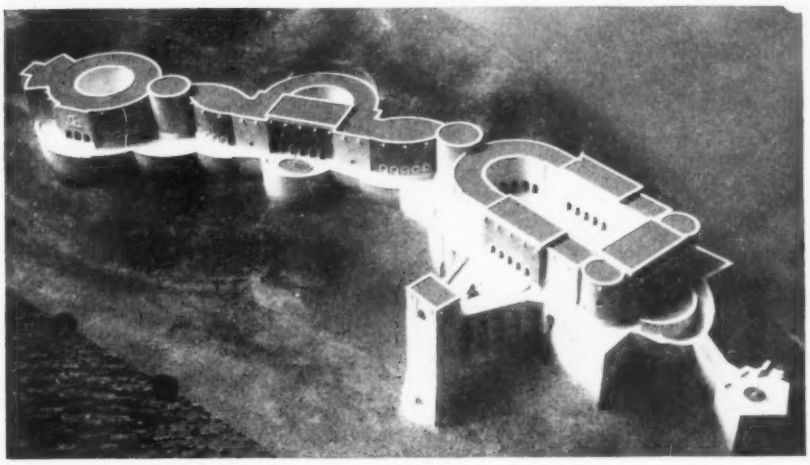
Miss De Henriquez is embittered because a statue she made at Salerno was blown up by rivals two weeks after its erection. "That was the last straw," she said. But was it? By the looks of the model (right) for Mr. Hartford's Hollywood H.Q. she need have no fears.

PETA'S OUT

ASTRAGAL is always pleased to hail the appearance of a new architectural journal. (There have not been very many of them since the war.) He has, therefore, to salute *Peta*, the journal of the Federation of Malaya Society of Architects. *Peta* has already run to three quarterly issues and its fat advertising section gives every promise of many more.

*

*Peta* is a pleasant, glossy, fully-illustrated journal with a lot of zip. Its pages are, as yet, perhaps a little crowded and, inevitably, its graphic illustrations are not up to those of . . . well, you know. ASTRAGAL found the historical articles on Chinese and Malayan buildings more interesting than the new buildings illustrated but





*Top: the proposed civic centre at Hollywood, with which sculptress, Miss De Henriquez "proposes to fight abstract art." Above: a country club designed before the war by Frank Lloyd Wright for the same site. See note on opposite page.*

that is no more than could be expected of a country where the profession of architecture is only beginning to come of age.

WHAT SHALL I QUOTE?

ASTRAGAL listened recently to a former AJ Guest Editor—Ian Bowen—explaining on the Third Programme how builders protect themselves against "excessive" competition. Excessive competition—as *last* year's Guest Editor team pointed out, you remember, is where the tenders being compared represent very different standards of quality.

*

Mr. Bowen's solution to the problem appeared in his contrast between the policies (and achievements) of the MOHLG, who demand open competition, and the MOE, who support selective tendering and negotiation. I wish he had said more to his lay public about the possibilities of negotiated collaborative procedures.

He was very fair in unfolding the collusive arrangements that builders get up to, glancing ironically at their "lengthy public apologies"; but he concluded that "What they have done—by their actions, not their words—is to query the effectiveness of a competitive tendering system." This seems to me the real point, and the few builders who realize it are those who approach their work analytically and systematically. They believe in negotiation, and only they have real knowledge of actual costs. Are they prepared to reveal it? On this, Bowen was unexpectedly pessimistic—"there seems no chance at all of reform along these lines. The deep rooted practices of the industry have so far not been radically modified, despite a whole series of working party and committee reports."

*

ASTRAGAL, though he shares Professor Bowen's feeling that we are up against the deep seated tradition of secrecy common to all commercial ventures, still holds that the initiative remains with the architect. For he is by nature the chairman of the building team, and it is for him to take the first steps to resolve any *impasse* caused by a lack of confidence in the team.

### ". . . NOT WITHOUT REGRET"

Thus spoke Minister Duncan Sandys as he gently rejected the Kadleigh-Whitfield-Horsbrugh scheme for the Barbican area of the City. His main argument was that the proposal would increase employment and therefore increase congestion in the City. This is a fair argument, which one would accept more readily if one was confident that the Minister's advisers had a more positive decentralizing policy and had also considered the following: First, the possibility of reducing building density in a part of the surrounding area to compensate for the local congestion. Second, that there was no possibility of car parking and warehouse space being needed on the scale planned. Third, that systematic excavation and piling over the whole area made no marked financial saving over random, unco-ordinated, site work.

*

Kadleigh and his partners must be fed to the teeth with being told how, in compensation for not achieving their aim, they have nevertheless made City planners think comprehensively and also consider including housing in the area. One might add that the architects have also increased their reputation considerably. George Kadleigh, it will be noted, stood successfully for election to the RIBA Council this year. His sturdy personality in the council chamber, if accompanied by the same breadth of ideas as he has shown in private practice, will make him a valuable man. So far Kadleigh and his associates have made two attempts—High Paddington was the other—to show the advantage of intensive, multi-purpose use of central urban sites.

*

Both have failed, largely, no doubt, because the designs, to ordinary eyes, go just over the edge of practicability into a world of Wellsian futurism. Holford, I think it was, described the danger of these designs ending, because of an inherent inflexibility, as white elephants. But the New Barbican, though larger, was not so extreme to everyday eyes as High Paddington.

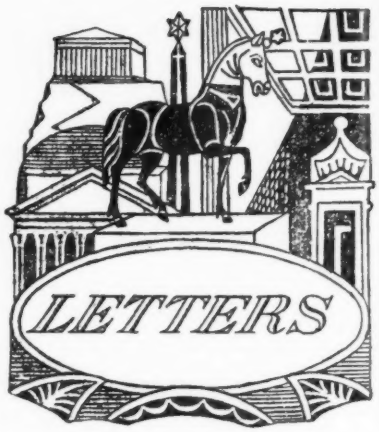
*

Perhaps, as the architects lower their aims, and, at the same time awaken public opinion to previously undreamt-of ideas, so, with luck, will private and public dreams eventually coincide. May Kadleigh's third attempt bring this about.

### SECRETARY FOR PROFESSIONAL RELATIONS

This is the title of the man whom everyone hopes will bring about the implementation of more progressive and more enterprising ideas on professional status, responsibility and, most important, pay. As has been announced in the *RIBA Journal* for August, the holder of this new post-to-cure-all-ills is Gordon Randolph Ricketts, M.A. Mr. Ricketts is certain to have everyone's sympathy on starting this new job, for which ASTRAGAL can recall no precedent among the professions. Mr. Ricketts can also be certain of receiving every kind of contradictory advice from all 15,000 members. But don't be in a hurry to give it him. He is reported to be in America now, and doesn't start work until the end of the year.

ASTRAGAL




*Seiriol Evans, Dean of Gloucester*

*Erno Goldfinger, L.R.I.B.A.*

*Philip James*

*Frederick Hill, F.R.I.B.A.*

*Henry S. Orbach, A.R.I.B.A.*

*L. W. E. Rowbotham*

*H. Edwards, Vicar of Highgate*

## Church Preservation

SIR,—Your leading article in your issue of July 26 has only just been brought to my notice, and I hope you will forgive a very late reply.

I think everyone connected with the Historic Churches Preservation Trust has admired Mr. Bulmer-Thomas's enthusiasm and energy, and has been grateful for the unselfish devotion with which he has pursued his aims. But it is a total misrepresentation of the case merely to say that he has been removed because he wanted to preserve churches which the ecclesiastical authorities for their own purposes wished to destroy.

The Bishops of the Church of England, and its official administrative bodies, are fully alive to the value and importance of its great inheritance of ancient and beautiful churches. As chairman of the Central Council for the Care of Churches, I have first-hand knowledge of the struggle that is going on to repair and preserve them in spite of the difficulties of the times. Sir Malcolm Trustram Eve, in a letter to *The Times* of July 20, has outlined a formidable catena of legal safeguards against their demolition; (and, by the way, if Dr. Fisher desired—as you sportively suggest—to destroy Bell Harry, there is plenty of legal power to stop him; the building is not within his jurisdiction to begin with). But legal safeguards are poor things; we preserve our churches because we love them, every diocese scrapes the barrel to help with their repair. Where there is a live congregation no church need ever be abandoned.

But where there is no congregation, and no other caretaker can be found for a church, it is impossible to preserve it. The Church of England has no money for preserving ancient monuments; and whatever Archbishop Davidson's undertaking was in 1913, it did not commit the Church to maintaining buildings which it could not use. Nor can the Historic Churches Trust give money to repair churches which cannot be

used. Its Trust Deed defines a church as a building which is, for the time being, used for worship. Even if some kind of use could be trumped up to bring it within the terms of the Trust Deed, help for such a church would be a very foolish action with the Trust funds in their present limited state, especially when there are scores of fine churches, with keen congregations ready to play their part, badly needing the Trust's aid. Money given to repair a church which cannot be used, is money thrown away. Architects know better than anyone else how swiftly a deserted building deteriorates.

The last paragraph of your leading article makes a suggestion which all would approve—that redundant churches should be made over to the Ministry of Works. In principle this would be an ideal solution, but I am not optimistic enough to think that the Treasury would see it in the same light.

It is a mistake therefore to see the departure of Mr. Bulmer-Thomas from the administration of the Historic Churches Trust as the result of a conflict between him and the Archbishop of Canterbury. It is the result of a disagreement between him and some of the Trustees on the most prudent way of administering the income of the Trust. In the new set-up, which is intended to improve the acquisition of funds and their distribution, Mr. Bulmer-Thomas was asked to become chairman of the Appeal Committee, but he declined this office because he disagrees with the grant policy which a majority of the Trustees think is the right one. We are all sorry that he should have refused, but after all, we are trustees and must conscientiously administer our Trust.

SEIRIOL EVANS.

## How Does A Door Swing ?

SIR,—Having been in practice for some considerable time and using for years the information given by the British Standards Institution, I am surprised that nobody has standardised the designation of locks on doors so that it is clear that a door hinged on the left-hand (opening towards you) can be specified as a left-hand door for all purposes: locks, rising butts, door handles, hinges, door springs, single-action floor springs, etc., etc.

I consider that such standardisation would harm nobody and save endless complications and expense to architects, contractors, sub-contractors, locksmiths and door manufacturers.

ERNO GOLDFINGER.

London.

[The Editors write: The "trade" uses a system of classification which was described in our Ironmongery issue (September 9, 1954). We quote from p. 307:

"To describe the way a door swings and which way a lock or handle is required to face would appear to be a simple matter but, in fact, is often confusing. The British Standards Institution have been trying to obtain a definition but the position is made complex by the number of trades involved. No system is universally accepted but it is believed that the following method is relatively easy to understand and is acceptable to the ironmongery trade.

"1. First determine which is the outside of the door or window.

"2. Next describe the direction of opening as clockwise or anti-clockwise, and is inward or outward opening.

"3. Lastly describe the fittings.

"1. *Determine the outside:* The lock trade over a good number of years has established that the outside of a door can be determined in all cases except that of a door in the middle of a corridor. For this door the terms 'leading' and 'trailing' face should be employed, 'leading' meaning the face in the direction of opening. For all other doors the outside of a door is taken as being one of the following:

"(*a*) The external side of a door in an external wall.

"(*b*) The corridor side of a room door.

"(*c*) The side of a communicating door on which the hinge knuckles are not seen when the door is closed.

"(*d*) The space between them in the case of twin doors.

"(*e*) The room side of a cupboard or wardrobe door.

"2. *Determine direction of opening:* No system is generally adopted but one that may be safely used is to describe the door or casement as opening clockwise or anti-clockwise, and as inwards or outwards.

"3. *Describe the fittings: Door Locks.* The door should be viewed from the outside. If the lock is to go on the left-hand side it is a left-hand lock and *vice versa.* It should be noted that if the door opens outwards a lock with a reverse bolt is required. An ordinary mortice lock, with reversible bolt can be converted to the opposite hand: but some rim locks cannot.

"*Lever handles and casement fasteners.* If when viewed the handle projects to the right of the shank it is a right-handed fitting and *vice versa.* Thus on any door with lever handles both sides one will be right hand, the other left."]

## Astragal Corrected

SIR,—The paragraph by ASTRAGAL (AJ August 2) on the exhibition "Autour du Cubisme" conveys a wrong impression. It is implied that these pictures are wandering about from gallery to gallery for loss of a home. In fact the loan was made at our request and, so far as I am aware, to England alone for two showings only. The Musée d'Art Moderne have generously extended the loan of two important works by Braque which will be added to the exhibition of this artist's work when it leaves the Edinburgh Festival and is shown at the Tate Gallery in September.

PHILIP JAMES.

London.

## Is RIBA Wrong ?

SIR,—Whilst conceding the excellence of uniformity in architects' sign boards and the move by the RIBA towards this ideal by producing a standard design, I challenge the Council's right both to insist on the boards being made by one commercial firm and to insist that the use of the RIBA badge by members is forbidden except on the boards supplied by this one firm.

I cannot believe that this is in accordance with the principles governing the conduct of chartered societies.

FREDERICK HILL.

Birmingham.

## More Prefab Stone

SIR,—David Russell's letter (August 2) on prefabricated stonework reminds me of seeing similar steel sheets at Green Bay, Wisconsin, which I visited recently. The only possible link between America's Mid-West and Mevagissey would seem to be an obscure Irish emigrant, who, recalling nostalgically the trompe l'œil of the bars lining the Liffey, decided not only to perpetuate the Dublin vernacular, but to outshine his friends at home by introducing a slightly third dimension.

HENRY S. ORBACH.

New York.

## Bull On Roofs ?

SIR,—The roofing contractors who withdraw their guarantee because the roofs have proved themselves, are like the farmer who took down the notice "Beware of the Bull" because no one had been attacked.

L. W. E. ROWBOTHAM.

Surrey.

## A Wider Highgate

*This is a copy of a letter written to the clerk to the MCC*

SIR,—I write as vicar of Highgate, and chairman of the parochial church council, to register our objection to the proposed road-widening at the junction of Highgate High Street and Southwood Lane, Highgate, which the borough council of Hornsey has recommended to the Middlesex county council. The proposal, which includes the excavation of a part of the ancient chapelyard of Highgate, has been considered by the parochial church council, at the direction of the annual parochial church meeting, and we most strongly urge that the scheme may be rejected by the county council.

The chapelyard is the ancient burial ground of the village, is of historic interest, and is consecrated ground. It contains the bodies of former inhabitants and others of all denominations. The area to be removed includes, it is believed, a number of graves of those latest interred before final closure of the ground for burials. Among them are the graves of a grandfather and the father of a present resident. The line actually runs through graves. The ground is substantially above street level, and complete excavation will be necessary. Such a proposal is naturally distasteful, and even shocking. It should only be entertained if proved not only effective, but unavoidable. We do not believe it to be either.

The scheme has been produced, we are told, solely in order to speed up the flow of traffic through Highgate High Street. This is the shopping centre for a great part of the district of Highgate, and the object of the proposal is, therefore, to increase the number of vehicles per hour passing through that street. On this, we would observe firstly that it is an established principle of good planning to discourage through traffic from entering shopping centres, and secondly that if the scheme fails to achieve its object of increasing the flow of the stream of through traffic at the periods of maximum congestion, it will be a complete waste of public money. From our close knowledge of the whole locality and traffic conditions in it, we doubt whether any scheme merely for widening a strip of road at one end can speed traffic through any length of road. Here we fear that the attraction of traffic from alternative routes may, in fact, increase the congestion at peak-hours. In any case, the present shopping centre will be adversely affected; it is an entity, the two halves of which cannot be divorced. Shoppers must be able to cross the street—for instance, there are two chemists on the north (Hornsey) side, and none on the south (St. Pancras) side, whereas there are three greengrocers on the south, and none on the north. This shopping centre is of particular importance because the recent re-zoning of a shopping area in North Road for housing has forced shops and shoppers into the High Street.

From the borough's point of view (and indeed from the county's point of view also), the problem may be a peripheral matter. We suggest that that is bound to produce the wrong answer. If anything is wanted, it can only be ascertained by preparing a fully integrated scheme covering also areas and roads outside the jurisdiction of the County and the Borough altogether. For that reason we should desire, if the scheme were

to proceed, to make full representation to the Minister. Even considered in isolation the scheme appears to us to take insufficient account of the causes of occasional congestion which it professes to cure, and to defeat its speeding-up object by rendering an all-red period of lights necessary for the safety of pedestrians. We can find no evidence whatever that it has been designed as one element in a larger co-ordinated scheme. We hope, therefore, that the proposal may be rejected. Meanwhile, we need no more than refer to the number of schools and old persons' homes in the vicinity; to the loss of an important amenity; and the destruction of eight trees; and to the encroachment of traffic upon the Chapel of Highgate School.

H. EDWARDS.

Highgate, N.6.

[The Editors write: This shows first the folly of making arbitrary boundaries in this case down the middle of the road: and then the folly of giving small administrative units the power to make big alterations to their area. One look would show that Highgate High Street is an entity: a second that it isn't on any main road system and so the traffic doesn't need speeding up; and a moment's reflection would show that the last thing wanted in a crowded shopping street (crowded with pedestrians, not cars) is a fast moving stream of traffic. If you want to go through Highgate, do it at Highgate's pace.]




## COMPETITION

### *Carlisle Assembly Hall*

The Corporation of the City and County Borough of Carlisle invite architects registered under the Architects (Registration) Acts and resident in Great Britain, Northern Ireland or the Republic of Ireland to submit in competition designs for a new assembly hall and municipal offices to be erected in Carlisle. The assessor will be Professor W. B. Edwards, F.R.I.B.A.

Six competitors will be selected to proceed to the final stage. Each will receive the sum of £300. The last day for submitting designs is Friday, January 31, 1957.

The author of the design placed first will receive £1,000. The last day for submitting designs is July 1, 1957.

The last day for questions is October 27, 1956.

Conditions may be obtained (deposit £2 2s.) from the Town Clerk, 15, Fisher Street, Carlisle, on or after September 17.

Applicants for the conditions must state their registration number or the number of the receipt issued to them by the Architects Registration Council in respect of the admission fee.

## CIAM IS DEAD . . .

### . . . *Long Live CIAM*

The tenth Congress of CIAM (writes Bill Howell) ended at Dubrovnik on August 13 with a ritual suicide, in the approved manner of the old religions, in order that the tribe might be reborn. The fact that many of the delegates went away without any very clear idea of what had happened, and that indeed everyone went away with their own interpretation of how the rebirth was to be effected, in no way diminishes the drama of the gesture. The old Phœnix of the Modern Movement cheerfully built up its funeral pyre, squatted firmly on top, and lit up. The only question that remains to be determined is the contents of the resulting egg.

It has long been apparent in CIAM (and, no doubt to many outside) that the old drive is no longer there, and that the post-war years have seen a good deal of free-wheeling, if no actual back-pedalling. This has been due to a number of factors. The original members are either up to their necks in practice, here, there and everywhere, or have taken up Academic posts which do not involve them in the urgent, incessant problem of researching, re-thinking, re-shaping. Also the constitution of CIAM changed after the first post-war congress at Bridgewater. CIAM started as a band of individuals who met together internationally to help clarify each other's ideas, and forge from them a coherent architectural line—both of thinking and acting. After Bridgewater, CIAM became a federation of all the national and local groups. This meant that the membership leapt from a few score to several thousand. The result of this has been a series of over-large congresses, where the few who arrived to work were overlain by the hundreds who came to chat, to see the old pals, to gawp at the great. It has also meant that the working core of CIAM has been—numerically—an insignificant minority, and this is an impossible atmosphere in which to clarify thoughts and postulate new problems.

At the beginning of the Dubrovnik Congress, a letter was read from Le Corbusier, in which he summed up this situation, with his usual intuitive genius. He also called for a radical change, and went so far as suggesting that the first phase of CIAM should be summed up in a retrospective publication, and then declared closed. He suggested that the separate identity of the original and subsequent phases should be characterized by calling them CIAM 1 and CIAM 2. This was discussed, and felt to be too difficult, as there have already been CIAM I—X (the Congresses) and it was felt that any additional numeration would be confusing rather than clarifying; it is left open as to whether the reborn organization continues the name—it is free to do so if it wishes, and if it does the first phase neatly groups itself into the first ten numerals, leaving the next phase to be characterized by CIAM XI to . . . ?

This letter from Corb, and a very forthright letter from Van Easteren from Amsterdam, in which he suggested just wrapping up, and awaiting developments, started a very animated discussion which occupied most of the last two days of the Congress. One thing was clear—the desire for a change of a radical nature. A committee of seven was formed to put forward some definite proposals to the Congress. This committee consisted of Emery (Algiers), Rogers (Milan), Roth (Zurich), Bakema (Rotterdam), Howell (London), Smithson (London) and Woods (Paris). This committee proposed:

1 That the Bridgewater Statutes should be revoked, so that the national and local groups should become once again autonomous and independent of CIAM.
2 That CIAM should be reformed by an interim body of up to 30 architects actively engaged in research which continues the work of CIAM 1—10.
3 That this body should be free to take on the name of CIAM (which is registered and protected) and all the assets and liabilities of CIAM, and should then be entirely free to re-organize the Congress and re-frame the Constitution, and if it wishes, change the name.
4 That the re-formation should bring into being a continental sub-grouping (European, North American, South American, Asian, Far Eastern, etc.) which the global nature of CIAM activity now requires.

This committee's report was adopted by the Congress, and it is now left to the Council to place final recommendations to a meeting of delegates next spring. The committee of seven were all Council members except the last two, so the Council will now co-opt these two to help draw up final plans for the re-organization.

All this came after a most successful working congress, which divided into two parts (generation-wise), the elder body editing and arranging the previous work of CIAM on the Habitat theme—both the work presented at Aix and also the relevant material from pre-war Congresses, the younger body examined the grilles presented and drew up reports based on them. This work took place in four Commissions, headed by Smithson, Howell, Bakema and Candilis, which studied Habitat from four aspects:—

1 Cluster.
2 Mobility.
3 Change and growth.
4 Habitat as an element in urban structure.

There were 39 grilles, of which 15 came from England—our top score to date.

CIAM carried out the first (self-destroying) step towards resurrection with great cheerfulness, except for a few agonized squeaks from some who saw their future relationship with CIAM as tenuous, to say the least. Now only one question remains—by what principle and mechanism to select the openers for phase two—Mr. G. O. Allen's task was easy by comparison.

## BARBICAN

### *First Scheme Rejected by MOHLG*

Duncan Sandys, Minister of Housing and Local Government, has rejected, "not without regret," the redevelopment scheme for part of London put forward by the New Barbican Committee. This is the scheme prepared by Sergei Kadleigh, Patrick Horsbrugh and W. Whitfield, which was previously rejected by the City Corporation and submitted to the Minister on appeal.

Mr. Sandys says that the scheme will involve building extensive new factory, office, and other commercial premises and would create a large amount of additional employment and thus add to the City's serious congestion.

## NEW TOWNS

### *"No Interest from Commercial Employers"*

Commercial employers had so far shown virtually no interest in the new towns set up to take the overspill population from London, Dame Evelyn Sharp, Permanent

Secretary to the MoHLG, said at a town and country planning summer school at Nottingham University.

She said it was vital to attract office employment from London to the new towns, and the time was ripe. A negative planning policy would never succeed by itself. The essential thing was to persuade employers that it was in their interests to move out, or, if expanding, to do it in the new or expanding areas, and to persuade other employers it was not in their interests to move in.

Dame Evelyn Sharp said that although the progress of overspill had been slow and disappointing, everyone was agreed that the policy was right and must be made to work. Taking a fairly conservative view, the number of people to move out might be approaching 500,000 from the congested areas of Greater London, 240,000 from Manchester, 200,000 from Birmingham, 150,000 from Liverpool, 70,000 from Leeds, and nearly as many from Sheffield. Some towns were already, plainly, too big for comfort or convenience and must not be allowed to expand. Their overspill must be taken far afield.

The first move was to define a green belt round these towns—a belt in which no development, other than for green belt purposes, was to be allowed, either now or in the future.

It was undoubtedly true that local government was not designed to grapple easily with overspill. It might be suggested that the right course was for the Government to appoint more new town corporations, perhaps using this method for town expansions as well as for new towns; but it would be a misfortune to take the job from local government and the Minister did not want to do it.

Local authorities could carry through decentralization if they would. Whatever agencies were employed to carry out decentralization, the key to success lay in the decentralization of employment, and in preventing its expansion in the big city. Meanwhile, in concentrating on decentralization, we must not lose sight of the urgency of redevelopment within the old cities.

## OLDHAM

### *Architects Appeal for Competition*

Oldham Society of Architects have sent a letter to every member of Oldham Town Council, following the decision of the town's Finance Committee to engage a Nottingham firm to design a new town hall. They hope it will help the council to change their minds about the decision. When they were considering a scheme the Finance Committee wrote to the Royal Institute of British Architects, who advised them to choose an architect by an open competition. "That advice has been ignored," says Mr. Dennis Bowman, secretary of the Oldham Society. Instead, the committee chose a Nottingham firm after a meeting in sub-committee.

The letter which has gone out to town councillors points out the advantages of a competition. Said Mr. Bowman: "It is the usual—and best—way of making a decision." He claims the council has given all its large projects to outside firms during the past 20 years. In the letter, the Society say the response to a competition would be "enormous." They add: "The most recent town hall competition had over 200 entries."

The cost would be about £3,000—"negligible," says the Society, "on a total building cost of £750,000. In any case, it could more than pay for itself in the selection of an economical design." The letter ends: "The very fact of an architectural competition for an important public building with hundreds of competitors would bring valuable publicity to the town and would strengthen the civic consciousness of the selectors. "It would arouse an interest among private developers to ensure that their own buildings were, if possible, equally attractive."

## CONTRACTS

### *BBC Contract Awarded for TV Centre*

The BBC announces that a contract has been awarded to Higgs & Hill Ltd. for the erection of the superstructure of Graham Dawbarn's design for the main block at the Television Centre, Wood Lane, W.12, upon foundations constructed by George Wimpey & Co. Ltd., who were awarded the contract for that work last November. The retaining-walls now constructed by them to receive the superstructure contain an area of approximately 3½ acres. The next stage in the development of the BBC's Television Centre is the erection of a circular building around a central courtyard. The building will have a high multi-storey inner ring-basement to seventh floor—which will contain dressing rooms and technical areas in the lower storeys and office accommodation on the upper floors. Radiating from this ring will be the studios, of which four of the seven provided for will be of completed initially. Two of these will be 100 ft. × 80 ft. × 35 ft. high, and two will be 70 ft. × 50 ft. × 25 ft. high, each with its ancillary accommodation. Around the outer periphery of the studios there will be an enclosed runway for transporting scenery. Between two of the studios there will be a multi-storey "wedge" in which there will be accommodation for the central control and apparatus rooms, and the telecine and presentation suites. Under the central courtyard there will be telerecording rooms.

These areas, with the scenery block already built, and the canteen block (at present used for programme rehearsals) converted for its ultimate purpose, will complete the first operational unit of the development. A decision when to proceed with the remaining three studios, and a works block for the maintenance of buildings, services and equipment, has not yet been made. The Contract requires the construction of the first operational unit by the end of 1959—with a view to it being in service in 1960.

The architect for the works, Graham Dawbarn, of Norman & Dawbarn, is in association with M. T. Tudsbery (Consulting Civil Engineer to the BBC) with Architectural Consultants: Sir Howard Robertson and Sir William Holford. The Quantity Surveyors are Messrs. Ainsley.

## VENICE

### *Biennale News-Letter*

Venice today (writes Bernard Denvir) is to some the intellectual centre of the world, to others a high-grade cultural Southend. Whatever your view there is no denying that the Venetians have got the organisation of festivals, exhibitions, conferences, and other manifestations of æsthetic bureaucracy absolutely taped.

The International Film Festival, which has just been held in an atmosphere of rigid anti-commercialism, revolves, like other fixtures in the Venetian calendar, around the Biennale. Founded in the lush heyday of the late nineteenth century by a politically-minded poet, this has grown to be a mammoth art fair, held in the city's public parks with thirty-eight nations sending in the pick of their contemporary painting and sculpture. Various prizes are offered, ranging from a television set to 1,500,000 lire (this year the sculpture prize in this category was won by Lynn Chadwick), and a good deal of personal and national prestige is involved in the showing made by the various participants.

Not the least part of this prestige concerns the appearance of the various national pavilions, in which are housed the exhibits of the different countries. Those which do not possess pavilions of their own, share with the Italians the large internationally-styled central building of the Biennale—though the 1958 exhibition will see, it is hoped, the erection of an Irish pavilion designed by Michael Scott, and a pavilion for religious art.

One might indeed regard the whole of the Biennale *mise en scène* as an exhibition of architectural styles, all of them reflecting in one way or another the personalities of their owners. The British Pavilion, in the basement of which is housed the local police station—is classic revival carried out in red brick and stucco. The pavilion of the USSR—used this year for the first time since the end of the 'twenties—looks as though it had been salvaged from one of the more impressive stagings of "Boris Goudenov." Interest, however, mostly centres around each new pavilion, and they are built almost annually. The *piecè de resistance* this year is the Japanese pavilion. Designed by Takamanasa Yoshizaka it is supported against the slope of a hill by two 10 ft. high piles, the space beneath being laid out as a court-yard for exhibiting sculpture, and related to the main gallery by an aperture in the ceiling which provides for ventilation and satisfies the sense of interpenetration. The roof is of opaque glass, the floor of marble, the walls part timber, part marble, and the lighting is controlled by an elaborate system of louvres.

## MOHLG

### *Neon signs in Piccadilly*

Duncan Sandys, Minister of Housing and Local Government, has told a firm of neon sign manufacturers that although he considers that illuminated signs are not out of place on the eastern section of the façade of the Criterion building in Piccadilly Circus, he is not prepared to approve the use of sites there for signs of an unspecified nature. It is open to the firm to make a fresh application specifying the particular advertisements they wish to display.

## DIARY

*The Management of Design.* COID 1956 Design Congress, three sessions: 1, Case Histories. 2, The Role of the Designer. 3, Implication for Management. At the Victoria and Albert Museum and the Royal College of Art, South Kensington.
SEPTEMBER 12 AND 13

*The Precinct of St. Paul's Cathedral.* Sir William Holford. At the ICA, 17-18, Dover Street, W.1. 8.15 p.m. SEPTEMBER 13

*House of Ideas.* Exhibition of house designed by Kenneth Capon for *House & Garden.* At the Tea Centre, Lower Regent Street, S.W.1. Monday to Friday, 10.30 a.m. to 6.30 p.m. Saturday 10 a.m. to 1 p.m. Admission free.
UNTIL SEPTEMBER 18

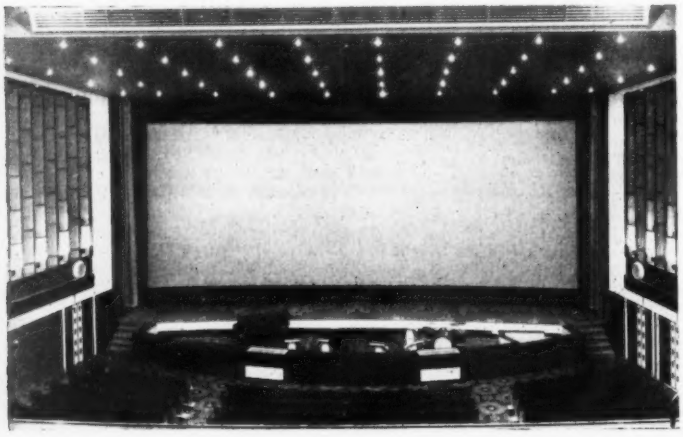
*Britain Builds for the World.* Exhibition sponsored by NSFBTE. At Booking Hall, Charing Cross Underground Station, W.C.2.
SEPTEMBER 18—OCTOBER 9

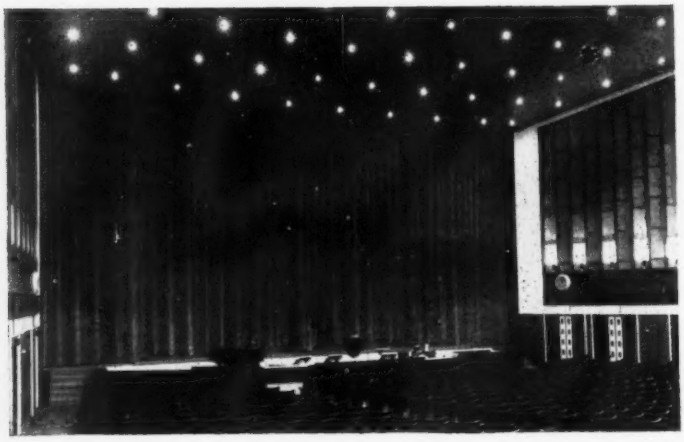
*Designers at Work.* Display illustrating the work of the COID's record of designers. At the Design Centre, 28, Haymarket, S.W.1. 9.30 a.m.—5.30 p.m.
UNTIL SEPTEMBER 29

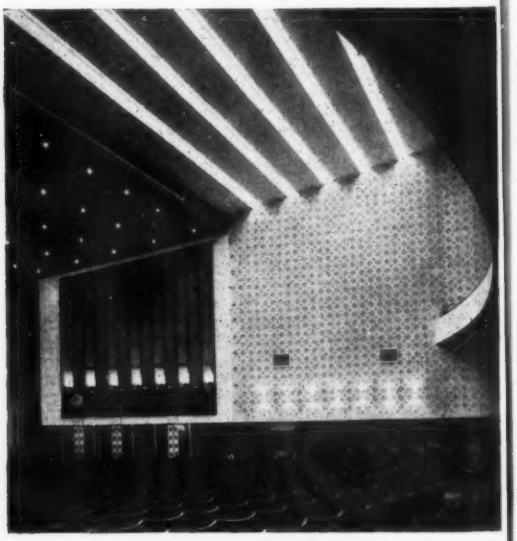
## CECIL CINEMA, ANLABY ROAD, KINGSTON-U




*The Cecil Cinema in Anlaby Road, Hull, designed by Gelder & Kitchen for Hull Cinemas Ltd., is one of the first cinemas of its size to be completed in this country since the war and is the first to be illustrated with a cost analysis in the* JOURNAL. *The architects were recently awarded the RIBA Bronze Medal for a building of exceptional merit, completed within a three-year period ending December 31, 1955, in the area of the York and East Yorkshire Architectural Society. Above, the main entrance from the north-west; below left, the auditorium from the gallery; bottom left, the auditorium from the stalls, with curtain drawn; below, from under the gallery, showing one of the organ grilles, with hardwood frame. The clients required a cinema and cafe to replace the original Cecil Cinema destroyed by enemy action in May,*



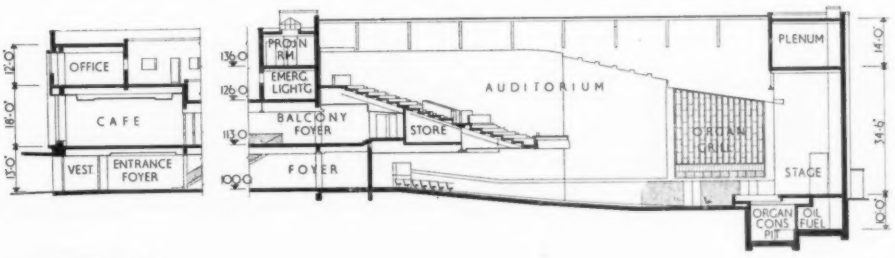




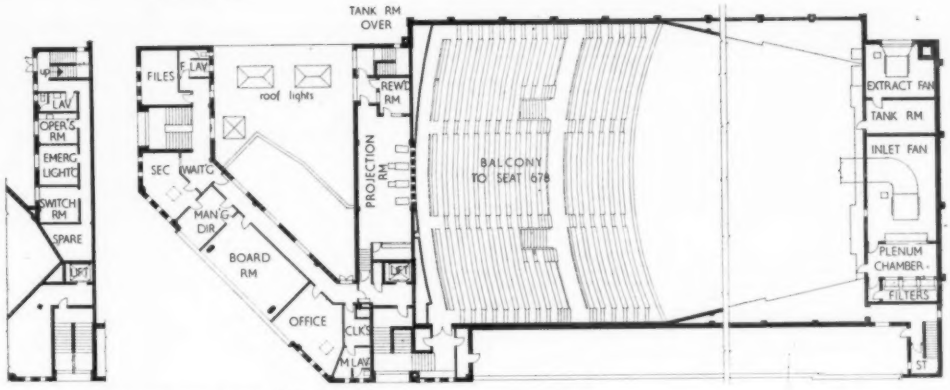
*1941. The cinema seats approximately 2,000 and it is designed to incorporate screen and sound facilities suitable for the modern wide screen film productions. An organ and platform for a small orchestra have been provided, and the building includes the maximum foyer*

## UPON-HULL, EAST YORKSHIRE

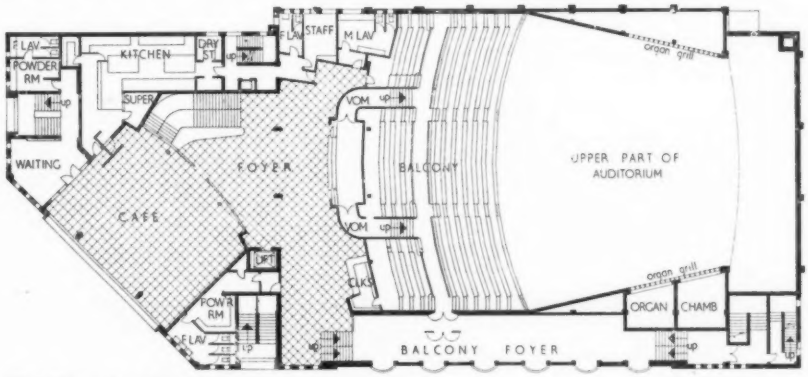
*accommodation for indoor queueing and waiting. A cafe seats approximately 100 people. This is linked to the cinema circulation, but also has an independent access from Anlaby Road for the service of morning coffee and lunches. The site area was determined by the Hull Corporation and included the large splay required by*



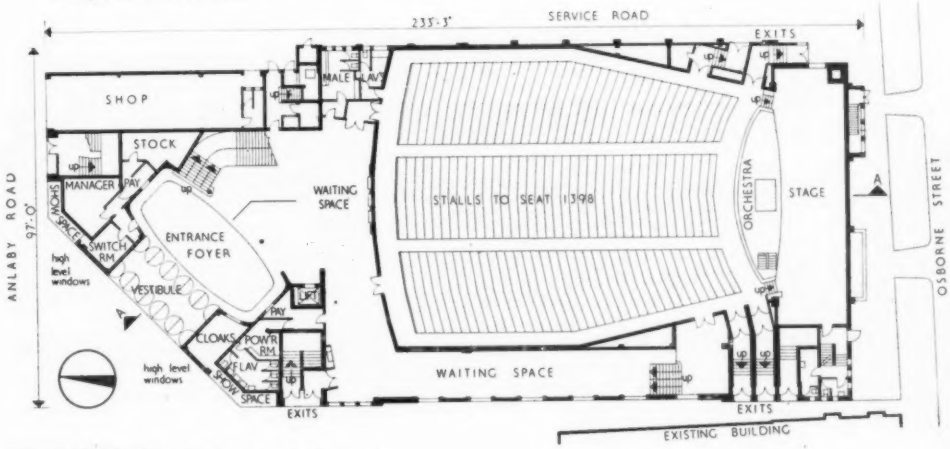

Section A-A




Balcony plan, levels 126 and 136

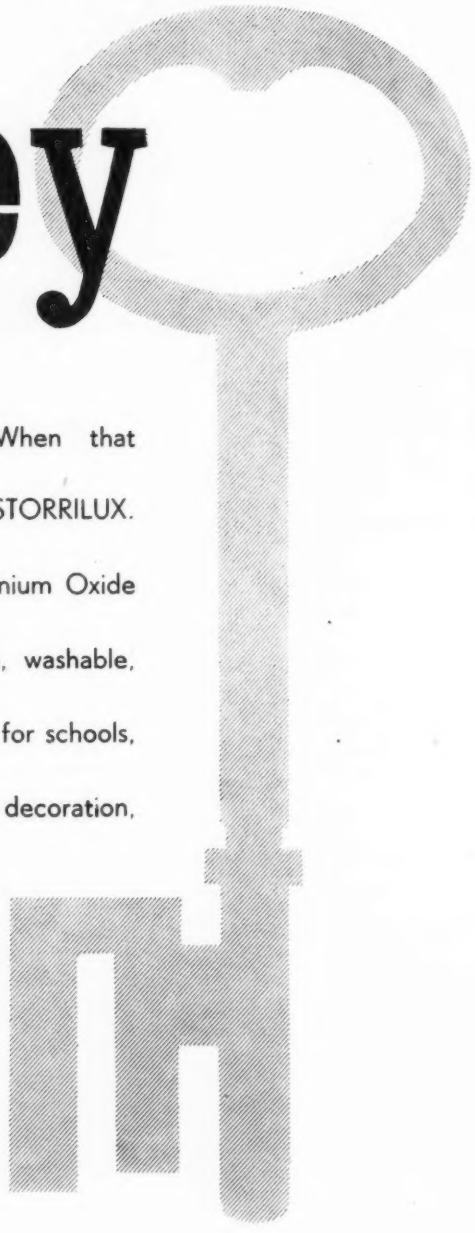



First floor plan, level 122




Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]

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## CECIL CINEMA, KINGSTON-UPON-HULL (continued)

*Ministry of Transport and local planning requirements. There was in the site a fall of approximately 4 ft. from north to south, and the subsoil bearing capacity was poor, consisting of 3 or 4 ft. of clay over silt. The main entrance, staircase and foyers were placed on the large splay, with the auditorium rake following the natural fall of the site.*

### COST ANALYSIS

| | | | |
|---|---|---|---|
| Total ground floor area | 20,371 sq. ft. | Tender cost of piling, foundations and basement (December, 1954) | £24,137 |
| Total floor area (excl. basement) | 44,003 sq. ft. | Tender cost of superstructure, installations and finishings (March, 1955) | £194,049 |
| Total floor area of basement | 1,843 sq. ft. | Cost per sq. ft. of total floor area including basement, based on total cost | 94s. 4¾d. |
| Total depth of basements | 10 ft. 9 in. and 11 ft. 6 in. | Cost per foot cube | 4s. 0¼d. |
| | | Increase of final cost over tender price (additional overtime was worked, to achieve an earlier opening date) | £5,100 |

| | cost per sq. ft. | s | d |
|---|---|---|---|
| | **preliminaries and insurances** | 2 | 2 |
| | **contingencies** | 2 | 6 |
| 1. *Foundations: in situ* r.c. piles and beams | **piling, foundations, basement including brickwork, asphalting, external drainage** | 12 | 0 |
| 2. *Structural frame:* steel frame with lattice girders to auditorium roof, riveted balcony girder and welded steel cantilevers. Steel encased in concrete or gypsum plaster on expanded metal | **frame and concrete encasement** | 20 | 6 |
| 3. *External walls:* 13½ in. solid brickwork with 2¾ in. autumn-brown hand-made facings, blue engineering brick plinth and faience tiling with terrazzo lining. Portland stone surround to feature window, reconstructed stone dressings and panels to foyer windows, slate surrounds to small windows on main elevation | **external walls** | 5 | 11 |
| | **windows and doors** | 2 | 0½ |
| | **ironmongery** | 0 | 4¾ |
| | **glazing** | 0 | 2½ |
| 4. *Internal walls:* 4½ in., 9 in. and 11 in. brickwork. 11½ in., 12 in. and 13½ in. foamed slag block. 16 in. cavity brickwork panels in auditorium | **internal walls** | 4 | 9¼ |
| | **internal doors and screens glazing and ironmongery (included in windows and doors)** | 1 | 6 |
| 5. *Wall finishes:* Plaster generally. Auditorium: fibrous plaster tiles on glass quilt backing. Dadoes: plastic fabric. Entrance hall: mahogany strip. Kitchen and lavatories: glazed tile | **wall finishes** | 5 | 8¾ |
| 6. *Floors and staircases:* Precast concrete units and *in situ* concrete | | | |
| 7. *Floor finishes:* Foyers: screeded for carpet. Auditorium: redwood boarding. Orchestra, platform and stage: hardwood strip. Cafe: screeded for carpet and hardwood strip floating floor, terrazzo treads and risers. Lavatories: terrazzo. Kitchens and stores: ferrolite tile. Staircase: precast terrazzo treads and risers | **floor finishes** | 2 | 3¼ |
| 8. *Roofs:* Offices, etc.: precast concrete units. Auditorium: aluminium decking | **roof structure and finishes, floor structure and staircases** | 9 | 6 |
| | **roof lights** | 0 | 3 |
| 9. *Ceilings:* Plaster on scrim to soffits of precast units. Plaster on expanded metal to suspended ceilings. Fibrous plaster to lighting troughs, organ surrounds, etc. | **ceiling finishes** | 1 | 2¼ |
| 10. *Built-in fittings:* Poster boards, display windows and cases, balustrades, cloakroom fittings, organ grilles | **built-in fittings** | 2 | 7¼ |
| 11. *Plumbing* | **external plumbing** | 0 | 3½ |
| | **internal plumbing, hot water system and sanitary fittings** | 0 | 4¼ |
| | **gas installation** | 0 | ¼ |
| 12. *Heating and ventilation:* Oil-fired boiler in basement under stage with high temperature mains distribution. Heating by radiators and ventilation system. Auditorium: filtered air from heater batteries by fan, supplied at 1000 f.c. per person per hour. Cafe: separate system giving 6 changes per hour. Foyers and entrance hall: fan connectors. Lavatories and offices: radiators | **boiler plant, oil storage, firing equipment, radiators and mains** | 4 | 5¾ |
| | **fans, filters, heater batteries and controls** | 4 | 10¾ |
| 13. *Cafe equipment* | **cooking equipment** | 0 | 11½ |
| 14. *Lifts:* passenger, goods and organ console lifts | **lifts** | 2 | 2½ |
| 15. *Electrical installation:* Direct and indirect fittings. Auditorium: semi-concealed cold cathode tubes with "starlight" fittings operated by electronic dimmer control. Colour change sequences are provided for on the 60 ft. wide screen curtains | **main switchgear, primary and secondary lighting, general lighting, rectifiers, sound system, clocks, telephone installation, organ console and grilles, lighting fittings** | 6 | 1¼ |
| 16. *Decoration:* emulsion paint to walls and ceilings, synthetic gloss paint to woodwork | **decoration** | 1 | 0 |
| 17. *Fire fighting* | **fire equipment** | 0 | 3 |
| 18. *Drainage:* internal (cast iron) | **drainage** | 0 | 1½ |
| 19. *Paved areas* | **paving** | 0 | 1¾ |
| | **Total cost per sq. ft. of floor area (£218,186; 45,846 sq. ft.)** | 94 | 4¾ |

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technical section

# INFORMATION CENTRE

13.132 materials: timber
**TIMBERS**

*Meranti, Seraya and Allied Timbers.* Forest Products Research Bulletin, No. 36 (HMSO, 2s. 6d.).

This Bulletin describes and classifies the large group of light to medium weight timbers in the family Dipterocapaceae, which derive from South East Asia. The commercial names of these timbers are very confusing: the same species is called by different names in different countries, and conversely one commercial name is sometimes applied to two distinct timbers.

The bulletin is therefore valuable to frequent users of these timbers. For the occasional user it is perhaps sufficient to know that the most important genus "Shorea" contains more than 100 species, which are divided into four groups, according to their anatomical features:

Red Meranti Group
Yellow Meranti Group
White Meranti Group
Balau Group (hard heavy timbers not included in the Bulletin)

Broadly speaking the name Meranti is used in Malaya, Sarawak and Indonesia, the name Seraya in North Borneo, and the name Lauan in the Phillipines.

The Bulletin is clearly written and well illustrated with charts, maps and microphotographs.

22.84 sound insulation and acoustics
**NOISE CONTROL BY ENCLOSURES**

*Noise abatement Installations.* J. J. Hughes. Noise Control (Publication of the Acoustical Soc. of America) Vol. 2. No. 2. Mar. '56.

The uses of complete or partial enclosures for reducing noise from virulent sources are described in this article. These enclosures are formed from pre-fabricated sections comprising metal panels with some degree of sound insulation and having a highly sound absorbent surface on one side. In one case the enclosure was used to provide a working space of comparatively innocuous noise level in a factory area where the overall level was well above that at which damage to hearing occurs. This method was used because it was less expensive than the more normal one of putting sound insulation barriers round the machines.

In other cases complete or partial enclosures round the actual noise sources were used and once partial enclosure was used to noise segregate different groups of operators on a continuous production line.

23.221 heating and ventilation
**GUIDE TO CURRENT PRACTICE**

*IHVE Guide to Current Practice* (IHVE, 1955, 65s.).

Until now the IHVE Guide has only been distributed to members of the Institution, but this new edition of over 500 pages is now issued for sale to the public.

It is made clear in the foreword that the aim has been to produce a volume "for use and reference by those who are sufficiently knowledgeable in heating and ventilating design to appreciate the relative importance of the various factors involved." The Guide is not to be regarded as a textbook. In this respect it differs from its American equivalent, which is now recognized as one of the most authoritative text-books on the subject. Most architects would perhaps be more interested in a textbook treatment of British practice in heating and ventilation, but nevertheless there are several sections of the present volume with which architects who have a special interest in the subject will wish to become familiar.

Perhaps the most important section is that dealing with "The Computation of Heat Requirements for Buildings." This is based on the booklet previously published by the Institution, but now incorporates important new material. For instance, the results of the recent study of basic design temperatures have been included, and it is now tentatively suggested that, when designing heating installations, lower external temperatures should be adopted for heavy construction: this is to allow for the more effective penetration of a cold spell into a building of low thermal capacity. Another new proposal is on the complex question of the measurement of comfortable warmth, and here the Institution now recommends that "equivalent temperature," as developed by Dufton, should be the criterion: the equivalent temperature takes into account the net radiant temperature in a building, and is more satisfactory than air temperature by itself. The section concludes with lists of thermal conductivities of building materials and notes on the calculation of heat losses from buildings.

In another section, the proposed IHVE circulation test for heating installations is outlined. The wide adoption of this will ensure that installations do, in fact, work as designed. The Guide Committee also have in hand a temperature test which could be used where the resulting room temperatures are apparently inadequate; the test would be "such as to show whether it is the heating system or the building which is at fault."

Another section which is well worth study is that dealing with automatic controls. The types of controls available are listed and their application in practice is indicated.

Most of the remaining sections are of less general interest, being mainly concerned with data for use in specialized design work, *e.g.*, properties of water, steam and air; characteristics of Fluid Flow. The sections dealing with "Codes and Standards," "Statutory and Other Regulations," will however be useful for reference. The Guide also include an index to the papers published in the *IHVE Journal* during the past 50 years, and a classified advertisement section of over 100 pages.

It will be realized from the above notes that the Guide as a whole is probably too specialized for widespread adoption by architects, but it will appeal to those who take a particular interest in heating and are prepared to study the technical side.



THE LIBRARY OF INFORMATION SHEETS

10.*F*1, 33,*C*1, 33.*C*2, 33.*C*3, 33.*C*9
*REFERENCE BACK*

*These Sheets have been revised and were republished on* 12.7.56, 26.7.56, 9.8.56, 23.8.56 *and* 6.9.56 *respectively. The previous issues are cancelled and should be withdrawn from the Library.*

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technical section



# 7 PRACTICE

## Tax-free pension schemes

The Finance Act implementing the Chancellor's promise to permit tax-free pension schemes for those in non-pensionable jobs received the Royal Assent on August 2, 1956. So that those of our readers who are in this enviable (or unenviable) situation may learn what it is about, we publish an article by I. Hillman explaining its working. At the conclusion the suggestion is made that if architects are going to get the most out of this Act the RIBA should negotiate special terms for them. This is a matter we take up in our leader on page 327.

Architects can expect over the next few months a steady flow of visitors interested in their welfare. These callers will be the representatives of life assurance offices, but the prime mover in their kindly attentions will be the Finance Act, just passed by Parliament, which gives final form to the Chancellor's Budgetary proposals for tax reliefs to professional men and others, broadly speaking in the self-employed class, who have to provide their own pensions.

These tax reliefs are a genuine attempt to put the self-employed man on equal terms with others who enjoy similar advantages under approved superannuation schemes. Certainly insurance companies expect a flood of business under the new law—most of them already have substantial lists of enquiries made in anticipation of the Act.

Because many architects will find that the new provisions offer an attractive answer to their pension problems some consideration now of their scope would be a valuable preparation for the arrival of the gentleman with the warm smile and the ready fountain-pen.

The new scheme is available to persons who are self-employed or in non-pensionable employment, or in posts where they have not for one reason or another joined an available superannuation scheme.

The premiums paid for these pensions will be deducted from income for the purpose of calculating income-tax, up to a maximum of £750 or 10 per cent. of the net earned income—by "net" is meant the income after deduction such as expenses normally allowable in tax returns. For people born before 1916 these limits are raised as shown in the foregoing sliding scale to enable them to provide adequate pensions over the shorter term left to them.

| *Year of birth* | *Amount of premium* | *Percentage of net relevant earnings* |
|---|---|---|
| 1916 or after | 750 | 10 |
| 1914—15 | 825 | 11 |
| 1912—13 | 900 | 12 |
| 1910—11 | 975 | 13 |
| 1908—9 | 1050 | 14 |
| 1907 or earlier | 1125 | 15 |

Architects in private practice whose incomes vary considerably from one year to the next will be relieved to learn that if one year's income falls below the figure on which the 10 per cent. maximum was calculated, this does not immediately affect their right to tax relief, since the difference can be set off against the surplus entitlement in a subsequent good year. Alternatively the Act allows for a policy wherein an architect pays a premium rated at 10 per cent. of his income for the year.

People who derive part of their earned income from a post which also provides a pension are not excluded but are enabled to purchase a pension in respect of the balance of their earned income. For them the percentage limitation mentioned above would apply only to that part of the income for which a pension was not already provided. Similarly the maximum premium would be reduced to between 10 and 15 per cent. of the pensionable earnings, in line with col. 3 of the above table. It might be helpful here to quote the example given by the Chancellor in the Parliamentary debate: if a man holds a post with a salary of £4,000 and a pension, and also earns £5,000 from other activities which carry no pension benefits, his maximum contribution for new pension would be £750 less £400, i.e., £350. (The Chancellor you will see has a preference for fat round figures, and who shall say he is wrong?)

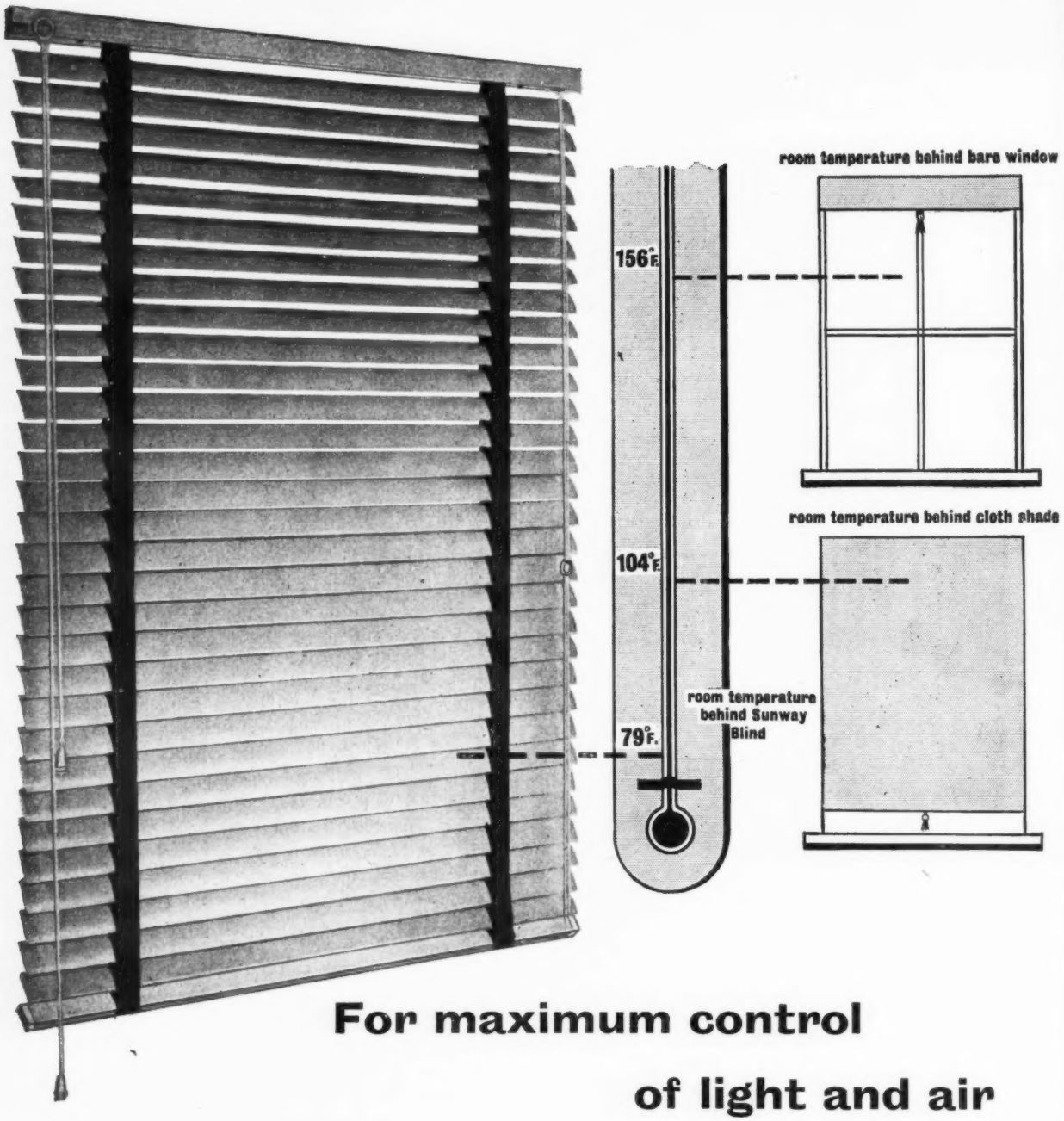
The cost of the pension is further reduced since the life assurance offices are exempt from tax on their investment income in connection with these pensions. This saving will be passed on in the form of reduced premium rates.

The benefits must be taken in the form of a pension. It had been hoped that the Act would offer equality with the "Top Hat" arrangements under which senior company executives and certain company directors can use their untaxed contributions to buy not only pensions but also life assurance "cover" and substantial tax-free sums payable at retirement. But it seems that for the purpose of the Act some will remain more equal than others.

The pensions must commence between ages 60 and 70, but a pension commencing earlier would be allowed in the event of ill-health. They can be payable for a guaranteed minimum term of up to 10 years if required.

Although there is no element of life assurance protection, in the event of death before retirement the premiums paid can be refunded to the deceased's estate, together with reasonable interest and bonuses, without the deduction of tax. It is also possible to take a reduced pension which would continue to the widow if the husband dies first.

Pensions payable under this scheme would be taxable as earned income.




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technical section

**Existing Policies**

As it seems unlikely that existing contracts can be made to qualify for these tax reliefs it appears probable that many people will be considering cancelling existing contracts and replacing them with new ones eligible for full tax relief. It is not certain however that this will always be desirable since many existing policies will have been obtained on terms that cannot for reason of age be repeated now.

These existing policies will usually be endowment assurances, i.e., policies providing a cash sum at a certain age or at earlier death, probably with the option to take a pension in place of the cash at maturity if desired. Apart from the matter of tax relief, these have the advantage of flexibility. They can, for example, be used as security for a loan or mortgage. They represent, to a limited extent, ready cash. But that could be a weakness, for if they are used to provide cash they cannot serve the original purpose of providing a pension. Unfortunately it is not possible to give much guidance on when it will be profitable to replace one of these policies with another under the new arrangements, since there are too many variable factors involved. In general, policies of long standing will be best left undisturbed, but for one that has run less than say, five years, comparative figures would be worth looking at. Also, as the advantages of the new scheme lie in the tax relief, it follows that persons paying less than the standard rate of income tax will not benefit much by the change, if at all, whereas surtax payers stand to profit handsomely.

People too near to retiring age to take advantage of the main scheme have not been forgotten. Annuities purchased for a lump sum not secured under a superannuation scheme will not be fully taxed as hitherto, but only the part regarded as interest will be liable for tax. Roughly speaking, this will mean that the purchase price will be divided by the expectation of life; the resulting figure will be regarded as the capital content of the annuity payments, and therefore tax-free. Thus taking the expectation of life for a man at 65 as 14 years (the figure would vary according to the table used), the capital content of an annuity costing £1,000 would be about £71, and this amount would be tax free.

EXTRACT FROM "THE ECONOMIST" JULY 16, 1955: LIFE ASSURANCE COMPARISONS

**Basis: An Annual Premium of £25 paid by a life aged 30 next birthday assurable at tabular rates**

| COMPANY | AMOUNTS PAYABLE IN 1955 *Endowment Assurance With Profits Effected in* 1930 *Payable on Maturity in* 1955 | | |
|---|---|---|---|
| | *Sum Assured* (4) £ | *Bonus* (5) £ | *Total* (6) £ |
| Alliance | 616 | 293 | 909 |
| Atlas | 619 | 271 | 890 |
| Britannic | 620 | 225 | 845 |
| Caledonian | 619 | 238 | 857 |
| Clerical, Medical & General | 594 | 285 | 879 |
| Commercial Union | NOT AVAILABLE | | |
| Co-operative | 650 | 231 | 881 |
| Eagle Star | 611 | 242 | 853 |
| Equitable | 625 | 291 | 916 |
| Equity & Law | 622 | 289 | 911 |
| Friends' Provident | 620 | 257 | 877 |
| Guardian | 642 | 283 | 925 |
| Law Union & Rock | 625 | 237 | 862 |
| Legal & General | NOT ISSUED | | |
| Liverpool & London & Globe | 612 | 256 | 868 |
| London Assurance | 628 | 257 | 885 |
| London Life | 632 | 248 | 880 |
| Marine & General | 625 | 311 | 936 |
| National Mutual | 620 | 333 | 953 |
| National Provident | 613 | 296 | 909 |
| North British & Mercantile | 617 | 262 | 879 |
| Northern | 627 | 292 | 919 |
| Norwich Union | 646 | 281 | 927 |
| Pearl | 612 | 236 | 848 |
| Phoenix | 622 | 293 | 915 |
| Prov. Association of London | 623 | 259 | 882 |
| Provident Mutual | 622 | 247 | 869 |
| Prudential | 626 | 245 | 871 |
| Refuge | 620 | 220 | 840 |
| Royal | 615 | 275 | 890 |
| Royal Exchange | 622 | 251 | 873 |
| Scottish Amicable | 609 | 305 | 914 |
| Scottish Equitable | 625 | 302 | 927 |
| Scottish Life | 611 | 250 | 861 |
| Scottish Mutual (General) | 628 | 225 | 853 |
| Scottish Mutual (Temperance) | 649 | 232 | 881 |
| Scottish Provident | 601 | 243 | 844 |
| Scottish Union & National | 617 | 259 | 876 |
| Scottish Widows' | 617 | 350 | 967 |
| Standard Life | 621 | 350 | 971 |
| Sun Life | NOT AVAILABLE | | |
| U.K. Provident (General) | 607 | 318 | 925 |
| U.K. Provident (Temperance) | 607 | 341 | 948 |
| Weslyan & General | 624 | 222 | 846 |
| Yorkshire | 624 | 316 | 940 |

**How to Choose Your Insurance Company**

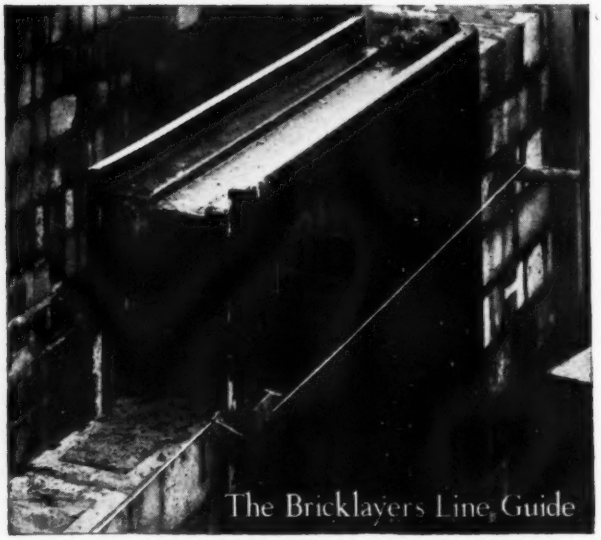
Life assurance offices will now be hard at work preparing their tables of rates, but it is already possible to forecast the kind of contracts that they will offer, and to give some helpful guidance in choosing between them.

Basically the contracts will be deferred annuities, i.e., contracts which provide a pension commencing at some later date in return for a premium or premiums payable now, because that is a requirement of the Act, but companies will offer policies combining a measure of life assurance to cover the possibility of death before retirement. But only two-fifths of the premium for the life assurance part will be eligible for tax relief.

Policies with and without the right to bonuses will be offered. There is little doubt that a policy with bonuses is the more suitable. Although non-profit policies give a guaranteed return, whereas the return under with-profit policies will vary according to the profits made by the Company, past experience has shown that with-profit policies issued by companies having a good profit-sharing record give a substantially better return. If they did not there would be very little sale for them.

In choosing between offices, the crucial questions are how much pension, and how much bonus, will be paid for each £1 invested. The amount of pension is of course fixed in the tables of rates, but an office charging a higher premium may well offer the prospect of bonuses far larger than those of a cheaper office. But how to judge these prospects? One can look at current bonus rates, but these are exceptional times and bonuses are running at a high level all round.

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technical section

Although it would take a fool to say that the present level must certainly fall, a wise man would think it prudent to discount the possibility of current bonuses being attained over twenty, thirty, and even forty years. Probably the best guide is the past bonus record of the office concerned considered side-by-side with the current bonus rate. Any office with pride in its record could show the bonuses paid over the last, say, thirty or more years.

The table on page 339 is a helpful comparison extracted from tables covering most of the leading life assurance offices published by *The Economist*. Column 3 shows the total amount paid, including bonuses, at the maturity of policies which had run for a term of 25 years. All the figures are based on a uniform annual premium of £25, yet there is a difference of £131 between the highest and lowest amounts paid. As the premium for the average pension policy would be considerably larger than £25, it is clear that a wisely purchased policy can mean a gain of hundreds of pounds compared with one bought by the usual haphazard methods of answering a well-worded advertisement, or signing on the first pleasantly proffered dotted line.

The table is a particularly useful guide since it covers a period of mixed financial conditions: starting in the stagnant early thirties, moving up through increasing prosperity into the war years followed by the austerities and severities of Cripps and Dalton, and ending in the present time of exceptionally high interest rates. This changing pattern has been a severe test of financial stability and wise, long-sighted management. Although the table was compiled last year, a similar one compiled today would show only minor changes—for example, special bonuses declared this year by the two offices showing the best results would cause them to change places with each other, but the general picture would be substantially unchanged.

The close comparison of premium and bonus rates along these lines may be tedious, but pension provision and the purchase of a house are probably the largest investments that the average architect makes. He certainly gives more than a few minutes consideration to buying his house. His pension plans are worth no less.

**Opportunity for RIBA**

Professional bodies, however, will be able to relieve their members of this tedious task, and at the same time obtain better terms than could be offered to single individuals. For example, negotiations could be made on behalf of architects as a whole, through the agency of the RIBA either with a single company or with a panel of companies. For such a large block of business, directly negotiated, specially reduced rates should be readily obtainable*. In addition, the RIBA, aided by expert advice, could certainly choose more knowledgeably among the available companies than could its individual members. The combination of a well-chosen company and preferential rates would bring substantial benefits to every participating architect.

Similar negotiations have been suggested in the past, but with a somewhat different object. They had in mind only the architect in pensionable employment, and their object was to make it possible for him, when changing his employer, to carry his pension rights with him. These attempts all encountered the same obstacle: the wide diversity of employers' pension schemes, which thwarted all proposed arrangements to make pension rights transferrable. The simplicity of the present scheme springs from the fact that the pension would be bought by the architect himself and not by the employer, so that a change of employer would not affect the pension policy. An architect (working for an employer) who wished to be free to change his job without loss of pension rights would probably choose in future to stand apart from his employer's pension scheme, and to buy his own pension under these new arrangements. He could reasonably expect his salary to be increased by the amount that the employer would otherwise have contributed to the superannuation fund.

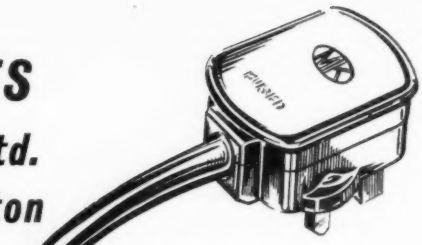
Under these new flexible arrangements, if the profession approaches the insurance companies as a united group, it will be negotiating from a position of strength. The RIBA has it in its power to ensure that every architect secures his pension at bargain rates. Collective bargaining that has served the trades unions so well can and should work just as well for the professions.

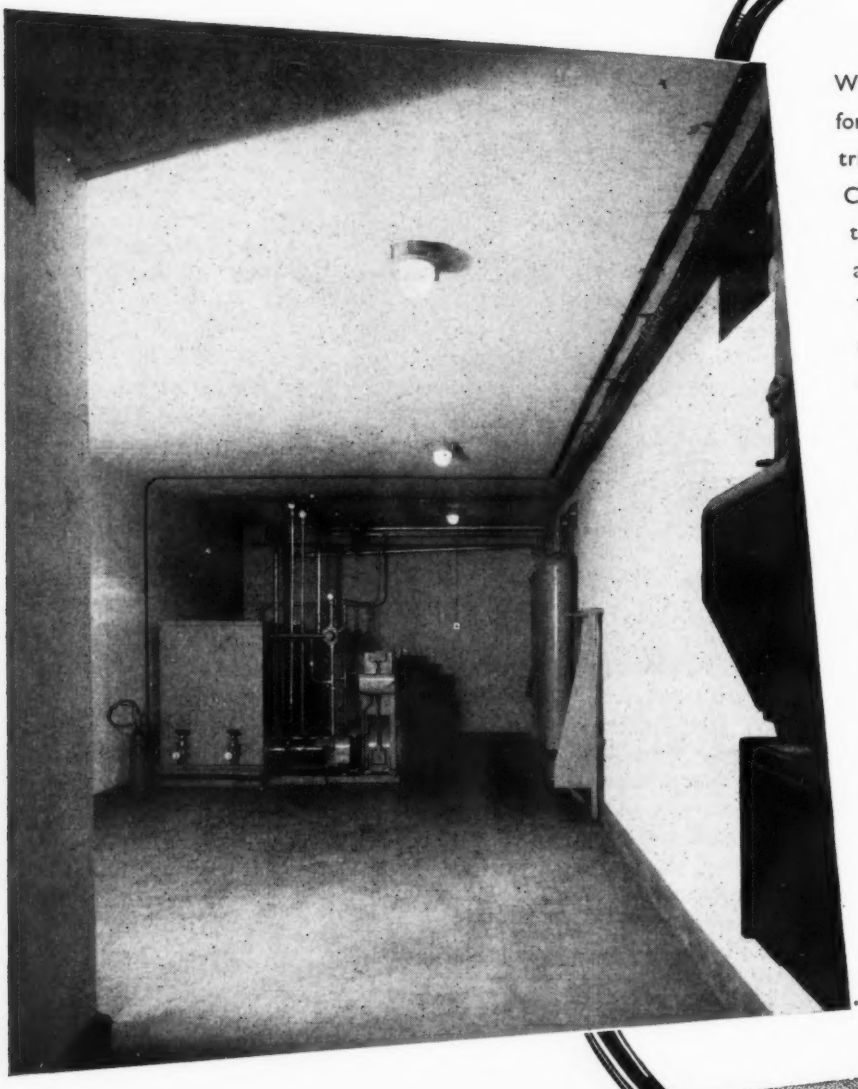
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* *Editor's note:* the ABS have an insurance agency with the Sun Life Assurance Society (entitled the ABS Insurance Agency Ltd.) who handle insurance and pension schemes for architects. It will be noticed that this agency is with one company only and that its main *raison d'etre* is the laudable one of obtaining agency fees and of making these over to the ABS: it does not envisage the kind of action suggested by the author of this article though there seems to be no reason why the ABS itself should not approach insurance companies on behalf of the RIBA and of the profession at large.

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technical section



# LABOUR REVIEW

## Demarcation disputes

At recent annual meetings of both the NFBTE and the NFBTO, speakers have mentioned demarcation disputes—disagreements between different trades as to who should handle a new material or process. A classic case has been the dispute between plumbers and carpenters, over the fixing of metal windows. The increasing variety of new materials and processes in post war building—a great technical change that will go on for some time yet—obviously extends the possibility of such disputes, so we invited Sir Richard Coppock, general secretary of the NFBTO to explain the machinery of negotiation for resolving demarcation problems, and to discuss the possibility of resolution at the drawing board stage—the architect taking the initiative. For classification purposes this article should be filed under 7—Practice.

*SIR RICHARD COPPOCK WRITES:—*

Disputes arising from differences of work are not new in the building industry. In December, 1915, just over two years before the formation, in February, 1918, of the National Federation of Building Trades Operatives, Building Trade Demarcation Committees were set up by agreement between, on the one hand, four employers' organisations (the NFBTE, the Master Slaters & Tilers, the Master Plasterers and the Master Heating & Domestic Engineers); and, on the other hand, fifteen building trade unions. The Committee laid down a procedure for the settlement of disputes relating to the demarcation of work.

The procedure, for various reasons, came no longer into play when the unions themselves formed the NFBTO in 1918. One of the unwritten objects of the Federation was not to intervene in demarcation issues for the obvious reason that it would have been unwise to take part in activities that have a biased appearance. This would have involved a rift in the Federation ranks by appeasing one union at the expense of another and so disturbing solidarity. That would have been the case even if the side taken was in the right, and what is right can only be a matter of opinion, arrived at by following custom; and custom changes in line with changed techniques.

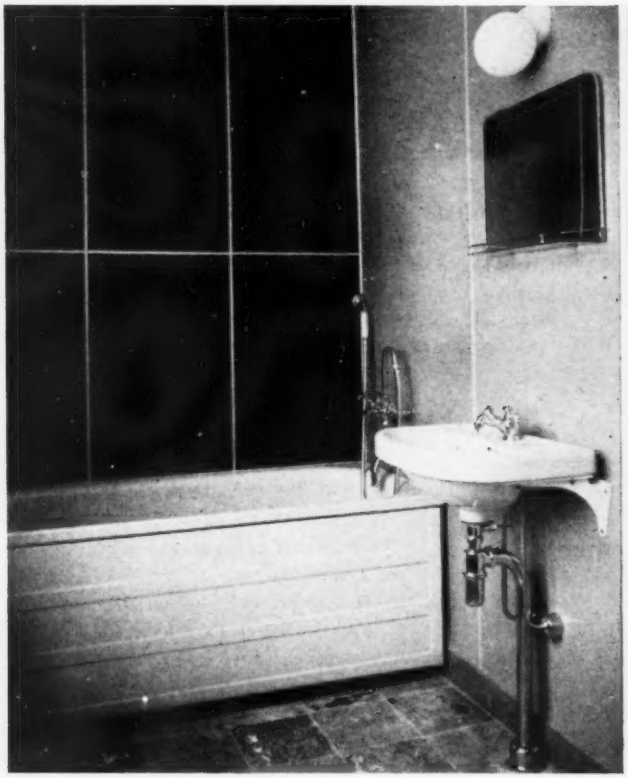
**Procedure Today**

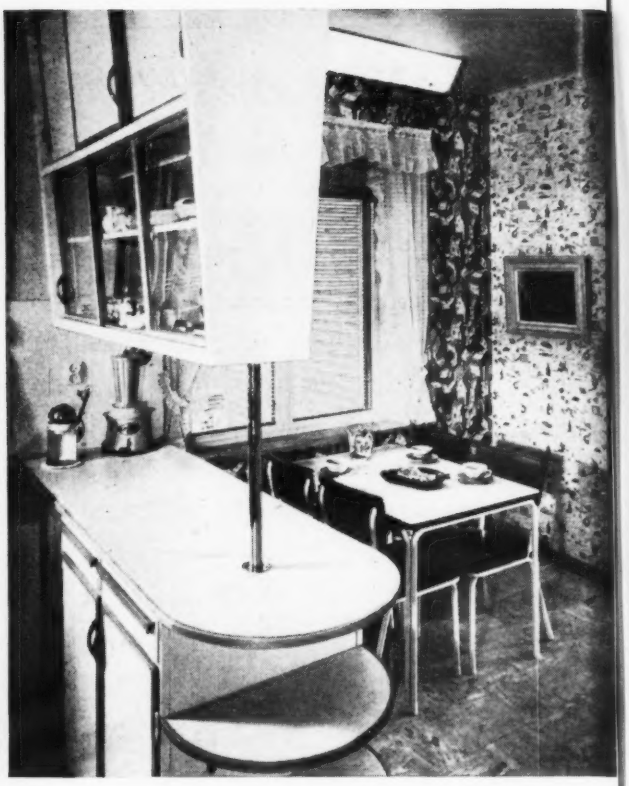
The position is now covered by different procedure. Today, any dispute or threatened dispute is dealt with under an agreement for the prevention of disputes, made in July, 1927, between the NFBTE and the NFBTO. The agreement is known as the "Green Book" procedure, from the cover colour of the agreement booklet. It covers a dispute or threatened dispute originating from *any cause*, not only demarcation. The agreement (not part of the machinery of the National Joint Council for the Building Industry, but referred to in the NJC agreement) provides for the convening of a National or a Regional Joint Emergency Disputes Commission purely on an *ad hoc* basis when necessity arises. Three a side constitute a Commission, with the two national or regional secretaries attending in an *ex officio* capacity. Decisions of a Commission are referred to the National Executives of the employers' and operatives' Federations for ratification or otherwise. In the latter event, consideration is given at executive level to what further steps can be taken to resolve the difficulty. In practice there has never been an unratified decision. When a demarcation issue does arise, it is not necessarily remitted to a Disputes Commission. Indeed, it is not so referred if it does not lead to or threaten a stoppage of work. The unions concerned may ask the Federation to take a hand by getting it to convene a meeting of the parties under its auspices, this action would not contravene Federation policy of non-interference in demarcation affairs, but indicates readiness at all times to lend its good offices on specific request. In such a case, the final decision is not with the Federation, but with the unions affected, whose representatives at the meeting invariably reach some kind of compromise solution which is subject to the endorsement of their Executives. The Federation can make its own proposals for a settlement, but its views cannot in such circumstances be imposed on its constituents. The Federation exists by the goodwill of its affiliates; so its authority, when exercised, is respected for that very reason.

Quite a number of demarcation disputes have been made the subject of consideration by a National Disputes Commission under the "Green Book" procedure during the last couple of years. Some are listed here with decisions, the diplomatic phrasing of which will be noted!

1. A dispute between woodworkers and plumbers in connection with the fixing of metal windows in Warrington. The Commission affirmed that the operation was a craft one, to be carried out under building industry conditions as decided by the NJCBI; that there was nothing in the previous decisions of the Commission of 1950 and 1952 which conferred on any one union "an absolute right to organise these men," and recommended the two unions to meet to discuss the problem.

2. In a similar case in the Liverpool area, a Commission recommended that "the fixing of metal windows on this site be carried out by woodworkers."





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technical section





The operative words here are *on this site,* from which it is evident that each case is judged on its merits, and that importance is attached to custom as well as to precedent.

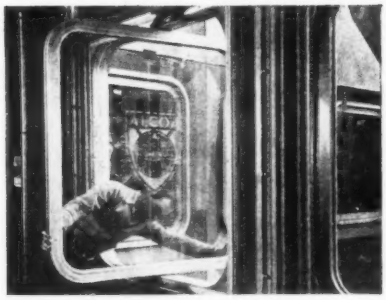
3. In yet another dispute between woodworkers and plumbers (Huyton, Lancs.) a Commission recommended, in view of the time factor and "with a view to minimising delays . . . that an immediate meeting be held between their Executives (i.e., of the two Unions) . . . and that the two Executives of ASW (Amalgamated Society of Woodworkers) and PTU (Plumbing Trades Union) should agree that in the meantime work be carried out on a fifty-fifty basis for this particular contract." Note the last words.

4. On an obdurate case of metal-window fixing in Leeds, a Commission recommended that "the craftsmen employed should be drawn as equally as possible from the membership of the two unions."

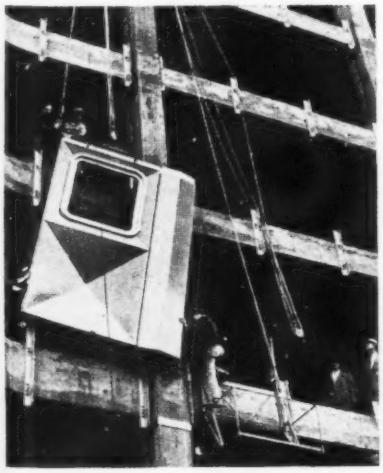
5. In a case to do with steelwork erection and the fixing of asbestos sheeting, a Commission decided that steel erectors should undertake steel-frame erection; that asbestos sheet fixing is the work of building craftsmen with their attendant labourers, on which basis "all parties should accept the principle of inter-availability, no exclusive rights being claimed by any one craft." On the matter of organisations connected with the dispute, this "should be straightened out between the two unions concerned."

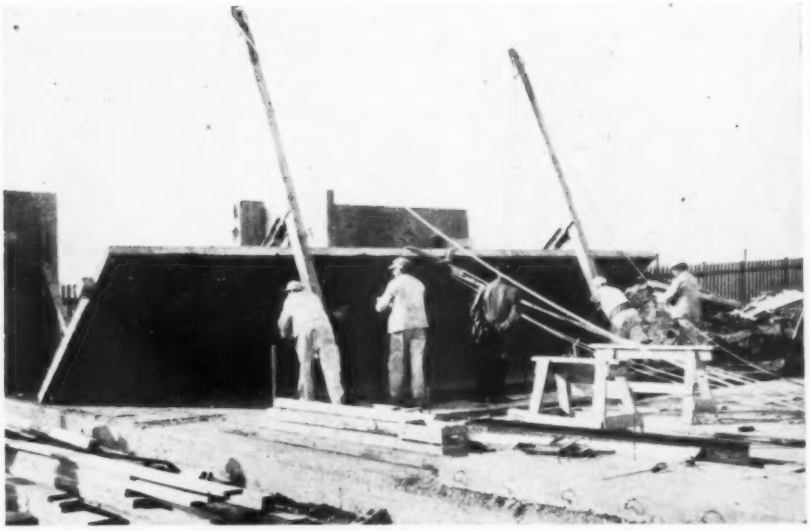
6. Another dispute concerned plasterers and bricklayers and the erection of "vermiculite" partition slabs. In this also a Commission suggested a fifty-fifty basis, as both crafts had proved their handling of such work.





*Left and below: illustrations of changes now taking place in building technique—changes likely to increase demarcation problems. "Is it that we need to train, not bricklayers, plasterers and carpenters, but 'assemblers'—experts in bolt tightening, wire tying, the application of jointing compounds and the fixing of insulation?"*





technical section

A final instance. Less than three years ago the Federation convened a meeting of representatives of the Woodworkers', Bricklayers', Plasterers' and Labourers' Unions (ASW, AUBTW, NAOP, T&GWU) to consider issues arising from the manufacture and fixing of "Bellrock." The four unions reached an agreement, which received the Federation's *imprimatur*, which held that "Bellrock" manufacture is predominantly the work of plasterers and their labourer assistants, and it is therefore the responsibility of the National Association of Operative Plasterers to see to organisation and the negotiation of rates and conditions "of all operatives engaged in its manufacture in categories other than those of craftsmen" (i.e., craftsmen other than plasterers). Further, that as "Bellrock" may be a substitute for plasterers', bricklayers' or carpenters' work, the fixing or erection of the product may be within the province of any of the three crafts in question. "Agreement on fixing to be settled at site level in accordance with the circumstances relating to the availability of labour in the district of any of the three crafts." There is to be no stoppage of work, but in the event of a dispute the matter is to be discussed in the first instance at site level by representatives of the unions concerned, and then, if necessary, on a national basis.

Within the last year consideration has been given to the establishment of some kind of machinery within the operatives' ranks for dealing with demarcation problems before they get to the stage of a dispute. In practice this would mean representatives of the Unions concerned getting together. Such a proposal is the natural result of the successful "Bellrock" conference, referred to, and it would probably be made effective when the occasion arises.

I have given here half a dozen sample cases. It may—understandably so—be asked, what if one or more of the parties do not accept a Commission's recommendations? The answer is that the parties do accept.

**Demarcation and the Architect**

Now what is the position of the architect in relation to all this? Should he hold aloof, regarding these demarcation disputes purely as industrial ones which are no concern of his? He might be encouraged to adopt such an attitude with the knowledge that in any case there is machinery in the industry to deal with these matters, and that any action he might be able to take would not only be inappropriate, but futile. Against these considerations, however, must be put the inevitable delays that arise, whatever the cause of the dispute. A threatened one need cause no delay, but an actual one certainly does; and delay means added cost. So I would venture to suggest that disputes of the nature we have been considering are very much the concern of the architect. In many cases he selects the material; even where he does not do this, it is within his competence to offer advice to his client. So what should the architect do then? To find out the established custom of the district; to suggest conformity with it; finally, if necessary to get together all the parties concerned so that agreement is reached *before* the stage of an actual or a threatened dispute. One is aware that there cannot be a custom or a precedent for everything; certainly not in the case of an entirely new material or operation, which is within the range of possibility and probability in these days of automation. In that event it is all the more essential to secure prior agreement, and to that end to call the parties together if there is thought to be a likelihood or risk of trouble.

Very few demarcation disputes have been prolonged, but whatever their duration they add to the cost of building.

*THE AJ EDITORS WRITE:—*

It is clear from Sir Richard's account that demarcation problems are primarily a matter for the particular trades concerned, that the NFBTO plays a neutral, guiding rôle. Thus it is difficult for general rulings to be established, and easy for the same dispute to recur on different sites or in different parts of the country. Demarcation problems are of course symptoms of technical change and so the present increasing diversity of materials and methods is likely to throw up a great many such problems. What seems to be needed then is some more centralised procedure for the settlement of demarcation problems, which can establish for all sites and all parts of the country a general ruling. This would not be a simple matter, for there are numerous regional differences of the responsibility and the availability, of various trades. Nevertheless, the "Bellrock" case described by Sir Richard, might well be the model for further conferences on other problems.

But demarcation goes deeper than this. Since pre-war days, progressive architects have looked eagerly to a future when what might broadly be called craft work is done entirely in the factories, and site work becomes predominantly a matter of assembly. This change has of course already begun—curtain walling, pre-cast plaster panels, roof coverings, pre-cast concrete walling, decking and flooring units—all these reveal the change. But, such is their isolation from the building industry, that architects have hardly begun to realise the consequences of this technical change upon building labour. Is it that we need to train, not bricklayers, plasterers and carpenters, but "assemblers"—experts in bolt tightening, wire tying, the application of jointing compounds and the fixing of insulation? Is the customary five-year trade apprenticeship really necessary?

Clearly this is to look too far ahead, beyond current problems. But if present changes lead this way, procedures which deal only with single problems *when* they arise (the procedure described by Sir Richard) seem inadequate as a preparation for the future. The NFBTO is the focal point for all building unions, but it seems not to have the strength or authority necessary for the tackling of general problems on behalf of all building workers.

## building illustrated

# FACTORY

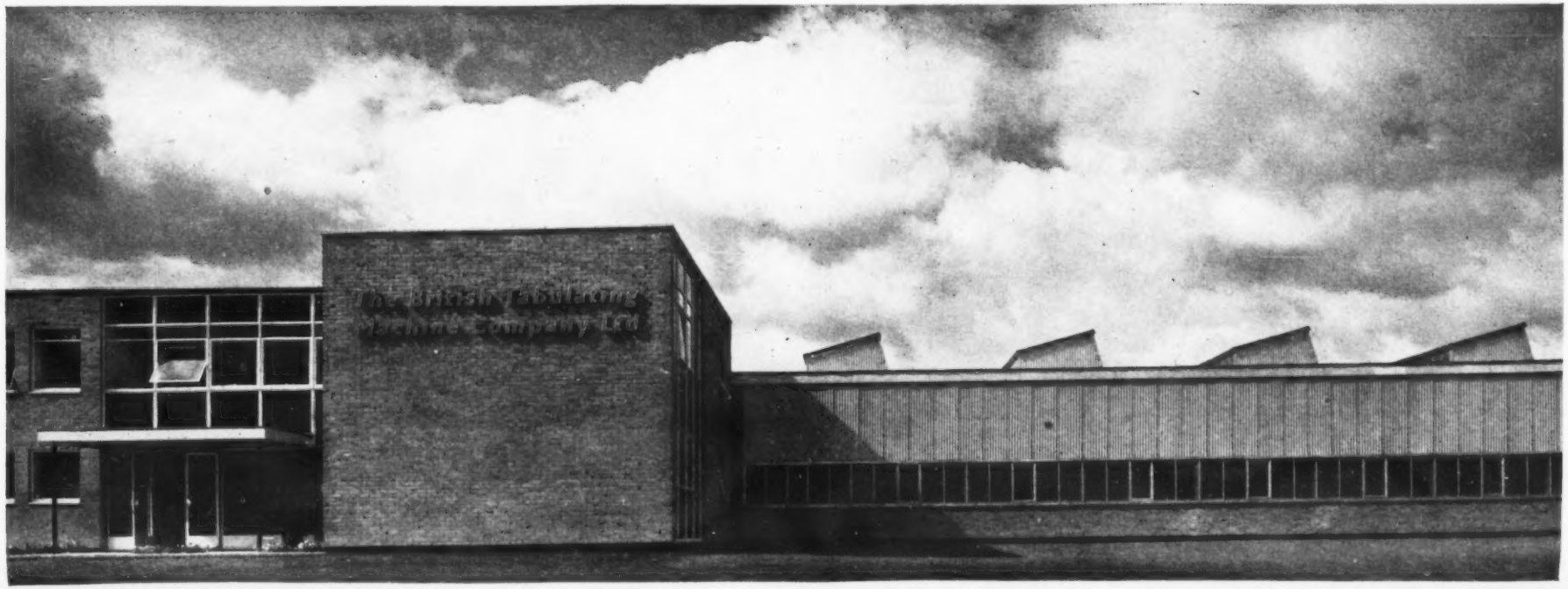
in the INDUSTRIAL AREA, STEVENAGE NEW TOWN, HERTS, for the BRITISH TABULATING MACHINE CO. LTD.

designed by LEONARD G. VINCENT, chief architect, Stevenage Development Corporation; H. E. BUTEUX, group architect

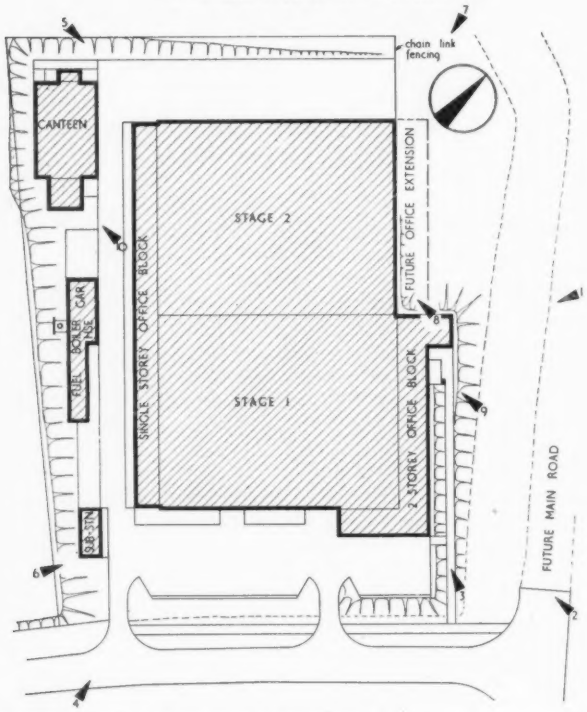
A. D. MAKUCH, assistant architect; K. F. WOOD, assistant; GARDINER and THEOBALD, quantity surveyors

This factory by the Stevenage Development Corporation is one of a series built in the industrial area subsequently to the prototype Hilmor Ltd. factory previously illustrated in this series (AJ, March 31, 1955), which was the first to be designed after the de-restriction of the use of steel. In general, the original design has been closely followed, but there have been changes in planning and detailing. These can only partly be explained by changes in the functional requirements, this factory producing electronic computing machinery, whereas the prototype was for light engineering.

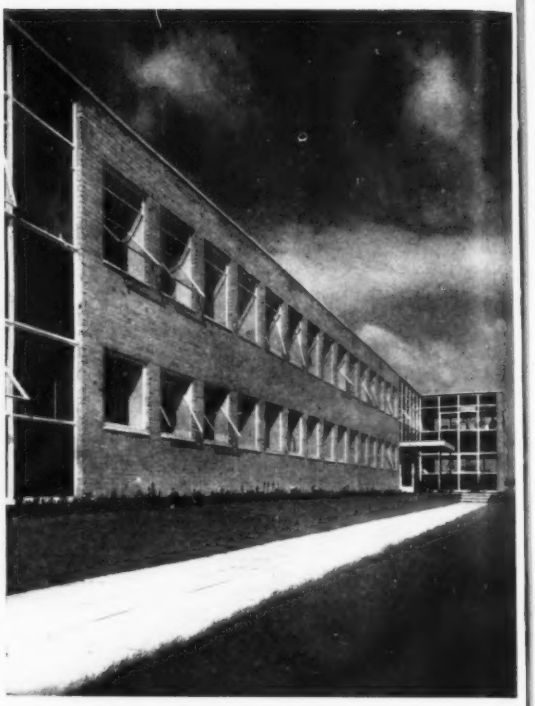
Viewpoint 1. from the north-east.



building illustrated



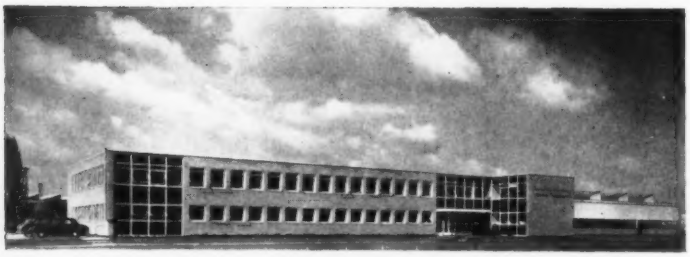

Key plan showing photographic viewpoints



# FACTORY

at STEVENAGE NEW TOWN

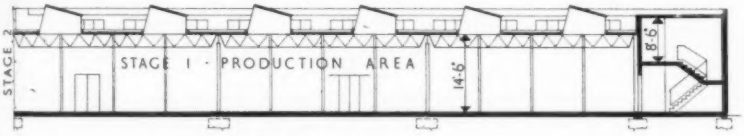
designed by L. G. VINCENT



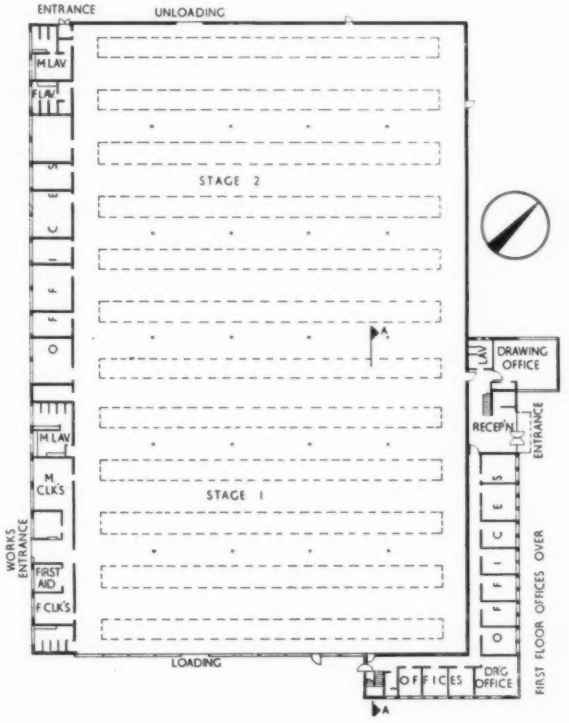
Although not yet constructed, an extension is planned to the main arterial road bisecting the industrial area, to run along the east side of the site (viewpoint 2, above), which will therefore eventually become the main frontage of the factory. The two-storey office block has been sited on this side of the production area with this future change in mind. To the extreme right space has been left so that the block can be extended up to twice its present floor area if required. The existing access to the main entrance from Bessemer Drive to the south-east is by means of a path running in front of the offices (viewpoint 3, above right). The block is constructed in loadbearing brickwork, supporting the first floor and roof which are formed of precast concrete beams. This construction is similar to that used for the Hilmor factory office block, but the need for a more complex spatial subdivision internally has led to the use of a greater number of smaller windows separated by 13½ in. wide by 15½ in. deep cavity brick piers. Where the concrete beams run parallel to the external wall, and loadbearing elements are not required, units of curtain walling have been introduced, built up of standard metal window sections with black stove-enamelled glass infilling, and backed by 6 in. hollow clay block walls below sill level. The block is carried on in situ concrete ground beams spanning between mass concrete bases. The exposed edges of the ground beams form a plinth which is coated with black bitumen. This construction is similar to that for the foundations of the perimeter walls of the production area, and was preferred by the architects to the strip foundations used for the office block of the prototype factory, largely on grounds of flexibility in dealing with changes of levels to firm subsoil. The block is in general terms a more rational use of loadbearing construction than its prototype. The query is naturally raised, however, as to whether in subsequent factories the architects will attempt a further simplification, at the same time making the structure more similar to that of the production area, by the use of a frame structure with light cladding throughout. Such a solution might raise problems of sound insulation, unless the block were separated from the main building, with consequent increases in external wall area. In the present factory, and in the prototype, there is a 9-in. brick wall dividing production from offices, which is not only a load-bearing element, but also acts as a noise barrier and a suitable fire break. Nevertheless a light structure for the offices might be the means of achieving not only a higher speed of erection and a greater flexibility when alterations or extensions are required, but a greater unity both structurally and aesthetically for the whole factory. The architects say that they did consider a framed construction for the offices, but under byelaws, as interpreted locally, steelwork must be encased above first floor level. It proved cheaper, therefore, to use traditional construction for the two-storey parts of the factory.

**building illustrated**

The office block continues round the production area on to the south-east side, facing Bessemer Drive (viewpoint 4, below right) and terminating with a secondary staircase. (In the prototype, with a smaller office block, secondary escape from the first floor was by means of a steel ladder to the production area). The main block of the building, the production area, is a simple rectangle in form, with monitor roof lights running east-west across the roof. It is steel framed, with similar external cladding to that used on part of the prototype factory, which also had brickwork up to eaves level on one elevation. Originally the production area was planned to be half its present size, placed on the south side of the site so as to allow for up to 100 per cent. expansion in a north-westerly direction. The clients, however, requested during the construction of the original design that the floor area be doubled, and this extension was carried out as a continuation of the contract. Normally space for 100 per cent. expansion is considered to allow the client sufficient flexibility, but in this particular case such provision has proved to be a conservative estimate of possible future needs, since the site is now fully developed, except for the space left for extension to the two storey office block. It has been found satisfactory, the architects point out, to allow for only 100 per cent. expansion in the industrial area, otherwise large undeveloped plots may lie idle indefinitely. In this case, the required expansion was more rapid than usual. As with the prototype factory, the boiler house has a sheet steel free-standing flue, with annular cold water storage tank. The architects state, however, that the relatively high maintenance costs associated with this type of construction would probably cause them to reconsider the design of this element in subsequent factories. At the north end of the site the service road leads on to a second car park (viewpoint 5, below centre) with sliding folding doors forming an entrance for goods into the production area. This is to allow for a general north-south flow of production, with completed products reloaded from similar doors on the south-east elevation. In both the present factory and the prototype design no loading bays or crane gantries have been provided for the handling of heavy goods. In both buildings gantries have subsequently been erected by the clients; in this factory, at the time of photographing, one was about to be erected outside the loading doors on the south-east elevation (viewpoint 6, bottom). The architects were aware of the need for overhead gantries at the Hilmor factory, but it was found more economical to add these later, rather than strengthen the entire frame in advance to take the weight. In the case of the present factory, no internal gantries are required, but the clients decided six months after occupying the premises that an external unloading hoist was needed on the south-east side.




Section B-B [Scale: $\frac{1}{16}$" = 1' 0"]




Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]



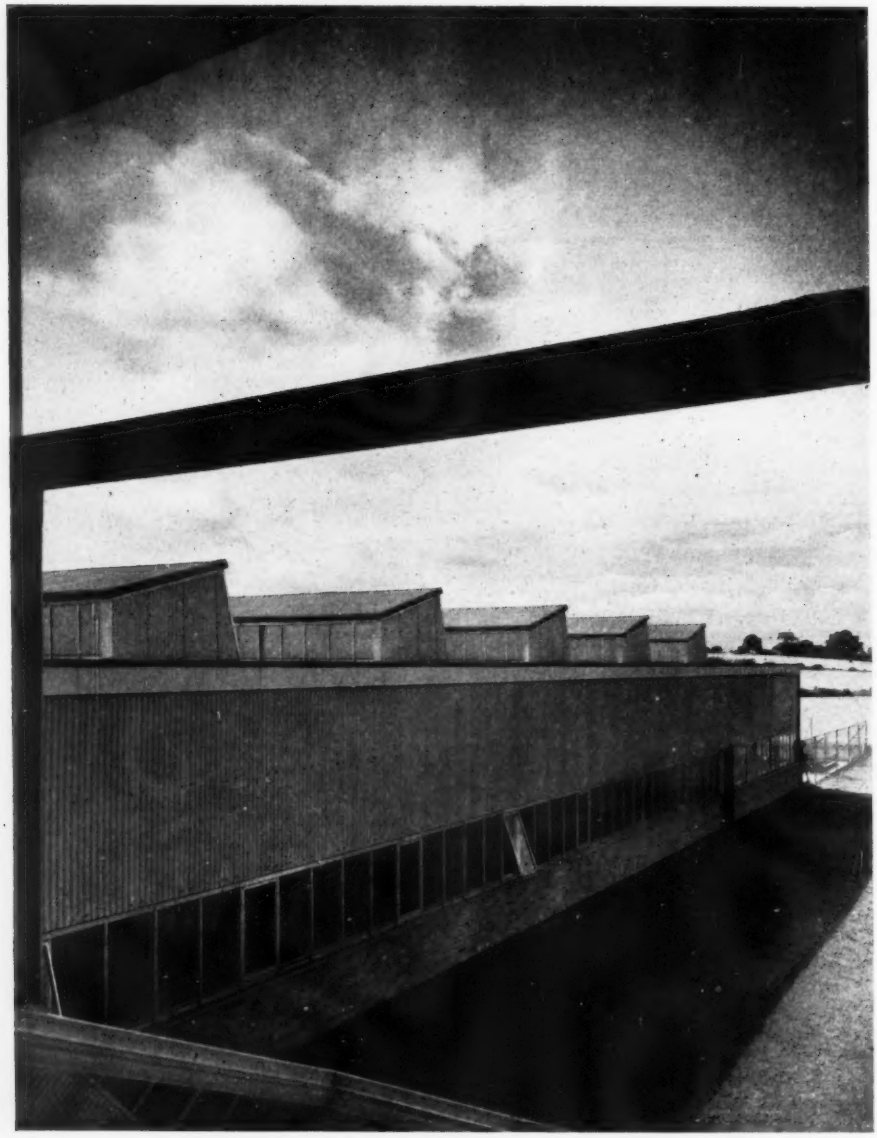




building illustrated



Above (viewpoint 7): the standard cladding runs round the north-west and east sides of the production area. As with the prototype, the corner stanchions are in the form of welded steel boxes, exposed externally and painted black, thus avoiding the need for specials with the patent glazing or the asbestos sheeting. Apart from this steelwork and the plinth formed by the exposed edge of the ground beams, which is also painted black, the only other painted surfaces are the doors, which are picked out in dark strong colours. The rest of the production block is unpainted, which should help considerably to minimize maintenance costs. The monitor roof lights, seen in viewpoint 8 below, from the first floor of the office block, are set back one bay, that is to say, 10 ft., from the external wall of the production area. This allows diagonal wind bracing to be used in the perimeter bays without crossing the monitors, and gives greater freedom in rainwater disposal, which is carried down in cast iron pipes fixed to the inner face of the perimeter stanchions. Such monitor design also allows them to be detailed quite independently of the external walls, as opposed to the alternative solution used at Harlow (see Factory for Standard Telephones, AJ, May 26, 1955), where combining the two elements in close relationship to one another has tended to be more complex. The omission of top light in the end bays does, of course, tend to reduce the level of daylight where there is no external strip window, as for example in the area adjacent to the office block, but since this space is normally only circulation, such a fall-off is not critical.



## FACTORY

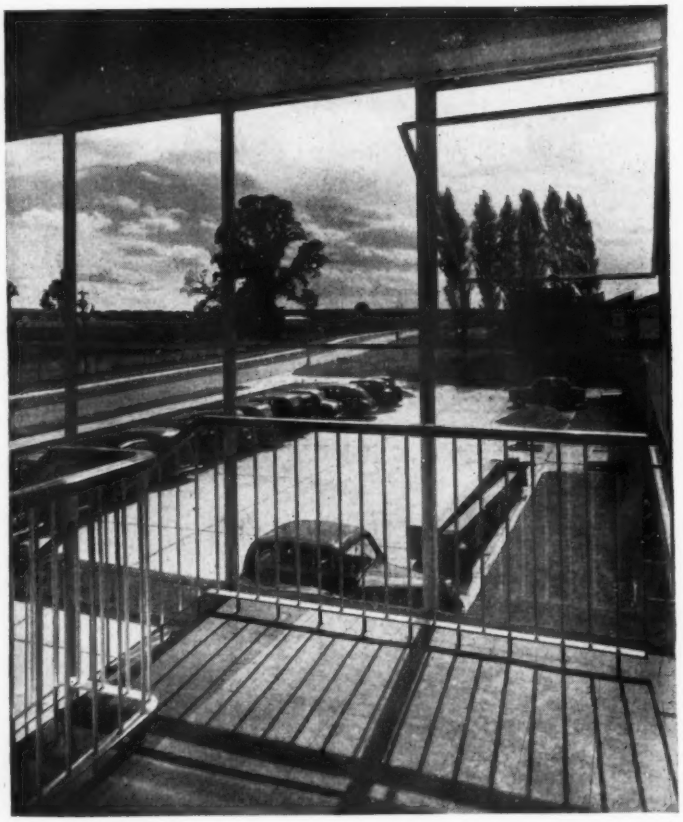
at STEVENAGE NEW TOWN

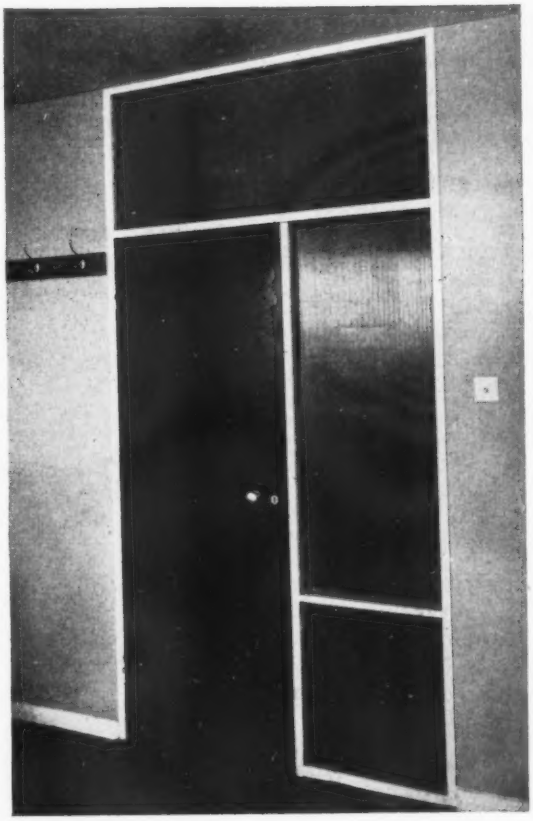
designed by L. G. VINCENT

building illustrated









The main entrance to the factory top left (viewpoint 9), and top right, is under an in situ concrete canopy, on the front of the two-storey office block. The projecting wing to the right of the entrance houses the drawing offices which are well lit naturally by windows on two sides. External colouring is generally restricted for the office block to black or white, with the panel to the right of the entrance and the low retaining walls in dark blue engineering bricks, contrasting with the general facings of flush-pointed London stocks.

Except for general grassing down, the slightly unsophisticated but highly immaculate planting has been carried out by the clients. The staircase (above left) is in situ concrete, with granolithic treads and risers, and a hardwood handrail supported on a welded metal balustrade. The ground floor corridor in the office block is lit by reeded glass panels framed in the same unit as the door (above right)—the bottom panel is painted plywood—and set in the breeze block partitions.

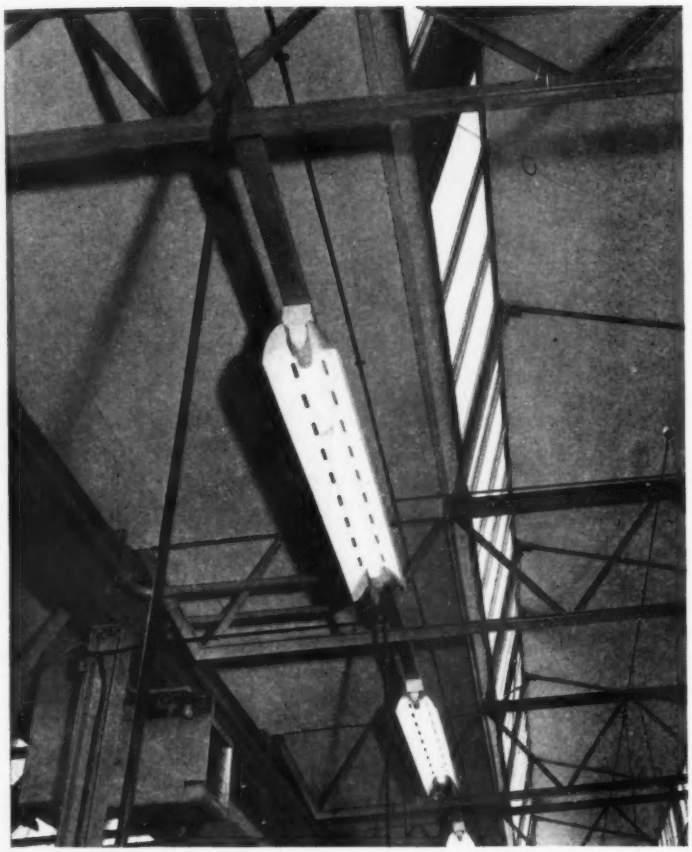
**building illustrated**



Right, the steelwork of the production area is identical to that of the prototype, with stanchions on a 40 ft. by 30 ft. grid, with perimeter stanchions at 10 ft. centres. These support main beams in the form of 16 in. by 6 in. standard sections spanning 30 ft. and carrying light lattice secondary beams spanning 40 ft. at 10 ft. centres. As with the prototype factory the steelwork spacing is based on the use of standard 10 ft. long asbestos cement cavity decking. The architects state that this has proved to be highly satisfactory, allowing for a rapid roofing-in during construction. The decking is finished with three layers of roofing felt, after the joints have been taped, and lined internally with ½ in. insulation board to give a U value of 0·23. This is fixed to battens glued to the decking prior to erection. The structural floor of the production area, as in the prototype, has been cast as a series of separated units to allow for shrinkage movement and settlement. In this case, however, the units have been increased from 30 ft. by 10 ft. to 30 ft. by 20 ft. No cracking of these larger units has yet been observed since completion. The floor is finished with 1-in. beech blocks to provide insulation to high voltage machines. Below, the monitor roof lights provide about 6 per cent. daylight factor over the working plane. In design they follow BRS recommendations, with the smaller area of glass on the south side to reduce sun penetration to a minimum, while at the same time the profile is carefully detailed to give uniform illumination over the working plane. The use of such two-side lighting also has the advantage of avoiding shadows that are created with one-side systems such as the old-fashioned north light roof truss, which result in restrictions on production layouts, or if the lighting is ignored, poor working conditions with operators working in shadows. The detailing of the monitors is similar to those on the prototype factory (see Working Detail, AJ, April 7, 1955) and a detail section is illustrated on page 354.



building illustrated

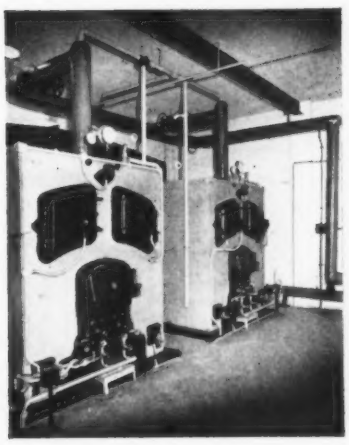




With such a structural system services can be easily accommodated in runs parallel to the monitors (left), being threaded through and supported by the secondary lattice beams. There are heating runs at 80-ft. centres supplying heater units forcing out warmed air in both directions at right-angles to the run. In addition there are trunking runs at 10-ft. centres. The production needs in terms of power supply outlets are constantly changing, and the system has proved admirably flexible in this respect. The architects rejected as uneconomic and too inflexible the alternative of running the power supply in the floor screed. Single tube industrial trough fittings are fixed directly to the trunking to provide 15 lumens per square foot. This level of illumination is somewhat low in view of the close nature of the work, and is not equated to the daylight factor of 6½ per cent., which for design purposes is normally taken to be the equivalent of 30 lumens per square foot. The client has not yet, however, augmented the number of tubes or fittings and it is understood that this is the usual standard of artificial illumination provided in factories at Stevenage and no complaints have so far been received by the Development Corporation architects' department. Below left: the asbestos sheeting of the external walls is lined with ½-in. insulation board on battens. A metal internal sill covers the top edge of the 11-in. cavity brickwork, the inner leaf of which is in the form of an infilling between the perimeter stanchions. Heating in the perimeter bays is provided by pressed steel radiators fixed to the brickwork. The metal partitions have been erected by the clients to divide off part of the production area to form a number of research laboratories and workshops. Colour in the production area is generally subdued, with the steelwork grey (Munsell reference N7) and the brickwork pale buff (Munsell reference 10YR 9/2). The doors are, however, picked out in stronger colours, and the west wall of the production area has been painted dark red (Munsell reference 7.5R 3/4) Below: the heating is supplied by two cast-iron sectional boilers which are rated at 1,302,000 B.Th.U., and which burn light fuel oil with automatic feed.

## FACTORY

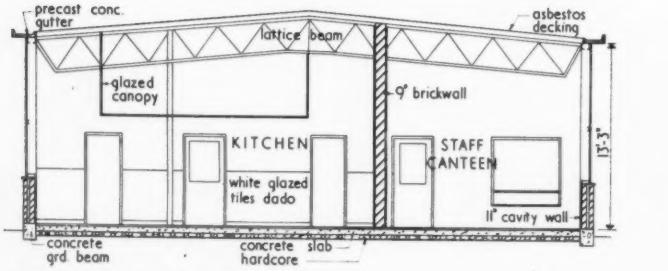
at STEVENAGE NEW TOWN
designed by L. G. VINCENT



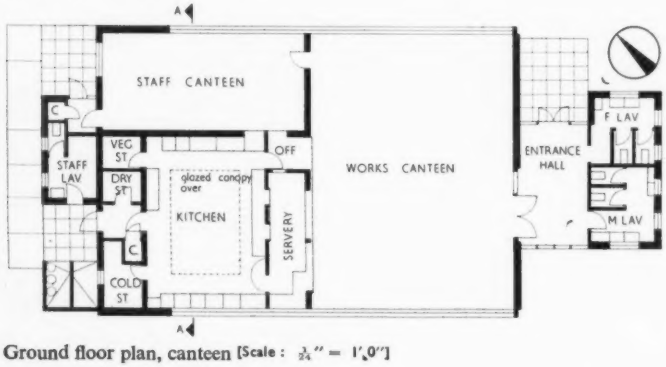
**building illustrated**



Above (viewpoint 10): unlike the prototype factory, where the canteen was in effect a screened-off portion of the production area, in this factory it has been provided as a separate building situated on the north-east corner of the site. It is a steel-framed structure, clad in cavity brickwork, with rendered panels under the main windows, and the lavatory and entrance wing on the left in load-bearing brickwork. The roof has asbestos decking similar to that of the production area. Below, the servery to the canteen has strip boarding below the counter, with the panel above the opening formed of plywood sheets fixed to timber studding. There are horizontally pivoted and counterweighted shutters for the main opening, with sliding panels for the return of dirty dishes. The ceiling of ½-in. insulation board has been painted dark blue (Munsell reference 2.5PB 3/8) to reduce its apparent height.




Section A-A [Scale: $\frac{1}{12}$" = 1' 0"]




Ground floor plan, canteen [Scale: $\frac{1}{24}$" = 1'-0"]



analysis

# FACTORY

at STEVENAGE NEW TOWN

designed by L. G. VINCENT

## CLIENT'S BRIEF: his stated requirements

A factory was required to form one of a series of relatively standard units which are provided by the Stevenage Development Corporation for letting to light industries. In this case 20,000 sq. ft. of single-storey production space, together with 7,500 sq. ft. of office accommodation was to be provided for leasing to The British Tabulating Machine Co. Ltd. for the manufacture of prototype electronic computing machinery, and for research associated with their development. A canteen was to be provided as a separate building. Planning and design was to allow for both the production area and the office space to be doubled in size if required. The demand for such an extension to the production area was in fact made before the completion of the original contract.

## SITE: topography, surroundings, access, planting

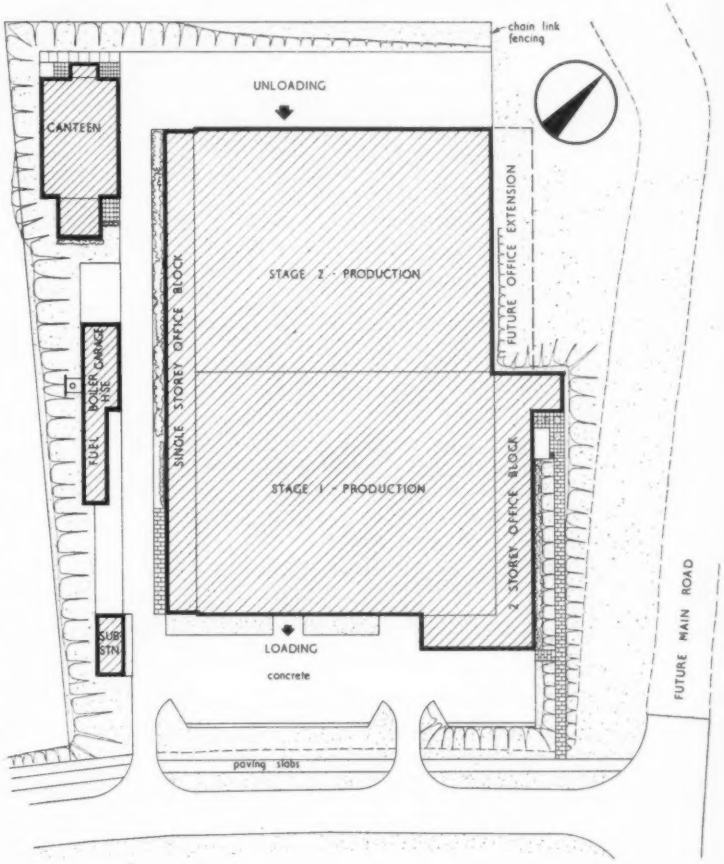
The site of about two-and-one-third acres is in the Industrial Area of the New Town, where a new rectilinear road pattern is partially developed through gently rolling farmland interspersed with clumps of mature trees. The site itself, however, was entirely open, with a slope of about 6 ft. from west to east. Access is from Bessemer Drive, which runs along the south-eastern boundary; a projected road is planned to run along the eastern edge of the site, so that it will eventually become a corner plot.

## PLAN: general appreciation and relation of units

In the original design the factory was placed on the south-eastern half of the site, to allow for extension in a north-westerly direction. The production area is in fact in the completed building twice the size of that originally projected, in response to the request of the client during construction. The site is thus fully developed, except for space left vacant in the north-east corner for possible future extension to the office block. The production area has been planned as a simple rectangle, with monitor roof lights running east-west. The works entrance, cloakrooms, lavatories and offices are housed in a low-level block running the full length of the south-western side of the production area. This is separated from the canteen and boiler which crosses the site from Bessemer Drive and a car park on the south-east side of the factory, to a service yard on the north-west side. Here goods are unloaded, the main production flow being from north to south, and finished products being reloaded close to the access from Bessemer Drive. The offices are arranged on two floors in a block on the north-eastern side of the production area, mainly overlooking the north-eastern boundary, and separated from the main structure by continuous circulation. This planning has been carried out with the development of the projected road along the eastern edge of the site in mind, to which there will be only restricted access, since it is to be a main artery. The office block is placed along what will eventually become the major frontage of the site, but access for vehicles will be from a secondary road.

## MAIN CONSTRUCTION: general appreciation

The main building is made up of three elements, the single-storey works office block and the main two-storey office block, which are both separated from the production area by ½-in. expansion joints. This has been done as a precaution against damage from differential settlement or thermal movement. The steelwork of the production area is designed on a 10-ft. module to allow the most economical use of standard asbestos cement cavity decking roof units of this length, avoiding the necessity for secondary bearers, or for wasteful cutting. The decking is supported on shallow welded steel trusses at 10-ft. centres, which are carried on main beams, being r.s.j.'s at 40-ft. intervals. This has given a very light and simple structure, and at the same time allows the services, heating and electrical trunking, to be threaded through and supported by the open trusses. Generally stanchions of standard section support the main beams, but welded box stanchions have been used at the four corners of the block. These are exposed externally, the light cladding of the external walls running directly into them, thus avoiding any complex corner details. The monitor roof lights are built up on light welded frames. They are set back at each end from the main eaves of the block, and are thus kept clear of diagonal wind bracing which is fixed within the perimeter bays of the roof structure. The office blocks are in contrast to the production area, being built in load-bearing brickwork, with precast concrete roofs and suspended floors, the loads being carried on outside walls generally by narrow brick piers between windows. The canteen is a separate structure.




Site plan

**cost per sq. ft. s d**

**preliminaries and insurance**

**contingencies**

**Note: the cost of these two items has been included pro rata over the remainder of the priced elements**

## STRUCTURAL ELEMENTS

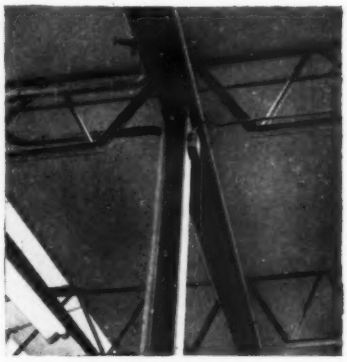
| *Work below ground floor level: foundation type* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Concrete bases, generally 3 ft. to 4 ft. square, carried dow sr average of 4 ft. 6 in. | Throughout | Mass concrete | | Owing to contours of site, more economical than strip foundations under load-bearing walls |

**analysis**

| *Work below ground floor level: foundation type* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| In-situ ground beams spanning between bases | Perimeter of production area, generally under office blocks | Reinforced concrete | Where exposed externally as plinth, black bitumen painted | | | |
| Floor slabs | Production area | 6-in. concrete reinforced with wire mesh | | Cast in alternate 30 ft. by 20 ft. panels and faces bitumen coated to form joints permitting differential movement | | |
| | | | | **work below ground floor level** | **3** | **11** |

| *External walls and facings* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
|---|---|---|---|---|---|---|
| 11-in. cavity brickwork in-filling below sill level, patent glazing and light cladding above 6 ft. 9 in. | Production area | Stock facings, aluminium patent glazing, 3-in. corrugated asbestos cement sheets on rails with ½-in. insulation board on battens as internal lining | Brickwork left fairfaced, with flush joints. Patent glazing and asbestos sheeting left natural | Low cost cladding, giving satisfactory thermal insulation, and requiring little or no maintenance | | |
| Load-bearing cavity walls with 13¼ in. by 15½ in. cavity piers between windows | Two-storey office block, single-storey office block, boiler house, and canteen | Stock brick facings | | Size of pier to allow for cavity to prevent water penetration | | |
| | | | | **load bearing walls** | **2** | **6** |

*The main beams are 16-in. by 6-in. standard RSJ's spanning 30-ft. and the top flanges of the secondary lattice beams are at the same level as the top flanges of the main beams. The lattice beams span 40-ft. at 10-ft. centres.*






Typical details of monitor roof and external wall in production area [Scale: ¼" = 1' 0"]

## analysis

| *Frame* | *Location* | *Materials* | *Beam spans* | *Column grid* | *Reasons and comments* |
|---|---|---|---|---|---|
| Stanchions, with main beams carrying secondary beams | Production area | Stanchions generally standard steel sections, corner stanchions welded box sections, main beams standard steel 16 in. by 6 in. sections, with secondary beams light welded trusses | Main beams 30 ft., secondary beams 40 ft. at 10-ft. centres | 30 ft. by 40 ft. with external stanchions at 10-ft. centres | The grid is determined by the use of roof decking units spanning 10 ft. |
| Stanchions supporting roof structure | Canteen | Stanchions supporting open web beams prefabricated from light sections | 40 ft. | 10 ft. | Canteen is an independent structure |

**frame** — s 4 d 5

| *Upper floor construction* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| | Office block | Hollow section precast concrete beams | 2-in. concrete screed on glass fibre | Fire resistant structure, with quilt to reduce transmission of impact noise |

| *Staircases* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| In-situ concrete | Office block | Reinforced concrete | Granolithic | Fire resistant |
| Height: floor to floor 9 ft. 3 in.<br>Width between landings 3 ft. 8 in. | | | | |

**upper floor construction and staircases** — s 1 d 4

| *Roof construction* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Flat roof, 15° sloped roof to monitors, and 5° pitched roof to canteen | Production area and canteen | 4⅜-in. asbestos cement cavity decking with 2 in. by 1 in. battens glued on to carry ½-in. fibreboard lining | Joints taped, 3-layer built-up roofing felt with white mineral finish | Permits rapid roofing in avoiding wet trades. Units have a safety factor for loading of six |
| Flat roof | Office blocks | Hollow section precast concrete beams | Concrete screed, average 1½ in. thick, laid to falls with 3-layer built-up roofing felt with white mineral finish laid on ½-in. insulation board | |

**roof construction** — s 5 d 1

| *Roof lights* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Monitors | Production area | Continuous runs of aluminium patent glazing | | To give uniform natural illumination over production area of 6% daylight factor, with multi-directional lighting to avoid shadows |

| *Windows* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Patent glazing with top hung opening lights | Production area | Aluminium with pressed aluminium sills | Natural | |
| Metal windows | Office blocks and canteen | Standard "Z" range and purpose-made window. Spandrels glazed with stove enamelled coloured glass ply slabs with 6-in. clay block backing | Hot dipped galvanized and painted | Centrally hung opening lights for ease of cleaning |

**roof lights and windows** — s 2 d 10

| *External doors* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Sliding folding | Production area | Framed and braced and faced with 18 guage sheet metal | Galvanised and painted | Chosen with heavy traffic in mind |
| Flush | Generally | 1¾ in. B.S.S. type faced with exterior plywood | Painted | |

**external doors** — s 0 d 2

| *Glazing* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Patent | Production area | 26-oz. clear glass | | |
| Patent | Production area monitors | ¼-in. wired rough cast | | Precaution against possible injury in case of breakage |
| Metal windows | Offices and canteen | 32 oz. and 26 oz. | | |

## PARTITIONING

| *Internal partitions* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Non-load-bearing | Two-storey office block | 3-in. breeze blocks | Plastered and painted | Flexible layout, which would have implied movable partitions, was not required |
| Non-load-bearing | Single-storey office block | 4½-in. brickwork | Fairfaced distempered | |

**analysis**

| | | | | | s | d |
|---|---|---|---|---|---|---|
| *Screens* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Counter screen | Canteen | Steel frame with 4½-in. brick panel in-filling timber vertical boarding below counter top, with above opening studding plywood faced to canteen, and ½-in. insulation board to kitchen | Timber vertical boarding painted, plywood cellulosed, and insulation board distempered | | | |
| | | | | **screens** | 0 | 1 |
| *W.C. doors and partitions* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Flush floors and non-loadbearing partitions | Generally | 3-in. breeze blocks with timber coping 1⅜-in. flush doors | Partitions plastered and painted, doors painted | | | |
| *Internal doors* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Plyfaced flush doors | Generally | 1⅜-in. flush doors | Painted or wax polished | Where doors were delivered with a good hardwood ply face, they were wax polished | | |
| | | | | **internal doors** | 0 | 4 |
| *Ironmongery to internal doors* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Door furniture | Generally | Aluminium (German manufacture) and 3-lever locks | Anodised | Good quality to take hard wear | | |
| | | | | **ironmongery to internal doors** | 0 | 2 |

## FINISHINGS

| | | | | | | |
|---|---|---|---|---|---|---|
| *Floor finishes* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Wood block | Production area | 1-in. nominal solid T & G dove-tailed European beech | Sanded, treated with preservative | Insulation to high voltage electronic machines | | |
| Thermoplastic flooring | Offices and canteen | Thermoplastic tile on screed | Grey mottled colours | | | |
| Quarry flooring | Kitchen | 1-in. red quarry tiles | Natural | | | |
| | | | | **floor finishes** | 4 | 0 |
| *Wall finishes and decoration* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Brick walls | Production area | Fairfaced distempered | Colours from Archrome range | Class 1, fire spread rating is achieved | | |
| Insulation board | Production area | 2 coats fire check paint | White | | | |
| Plastered walls | Office and canteen | Emulsion paint | Colours from Archrome range | Generally colours have been kept very light to assist natural and artificial illumination. Smaller areas of strong colour and dark colour are introduced to provide contrasts | | |
| Tiling | Kitchen | Glazed tiles | White | | | |
| | | | | **wall finishes** | 0 | 7 |
| | | | | **decoration** | 1 | 5 |
| *Ceiling finishes* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Insulation board | Production areas, canteen | 2 coats fire-check paint | White | Class 1, firespread | | |
| Precast concrete roofs | Offices | ⅜-in. plaster for concrete surfaces | Distempered white | To minimise plaster cracking | | |
| | | | | **ceiling finishes** | 0 | 11 |

## SERVICES

| | | | | | | |
|---|---|---|---|---|---|---|
| *Rainwater disposal* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| To separate surface water sewers | Generally | Cast iron | Vitreous enamelled | All pipes brought down internally | | |
| | | | | **rainwater disposal** | 0 | 2 |
| *Plumbing, internal: waste disposal* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| To separate soil drainage | Generally | Copper and glazed stoneware | | | | |
| | | | | **plumbing internal** | 0 | 6 |
| *Hot water storage* | *Location* | *Materials* | *Capacity* | *Reasons and comments* | | |
| Calorifier | Production area and canteen | Insulated copper cylinder off heating system in winter. Immersion heater, thermostat controlled in summer | | | | |

**analysis**

| | | | | | s | d |
|---|---|---|---|---|---|---|
| *Cold water storage* | *Location* | *Materials* | *Capacity* | *Reasons and comments* | | |
| Annular feed and expansion tank | Fixed to steel chimney of boiler house | Steel tank in two halves, 2-in. cork insulation and 16 gauge aluminium casing | | To give necessary height for gravity feed | | |
| *Plumbing: sanitary fittings* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Washbasins, sinks, w.c's drinking fountains | Generally | Fireclay | White glazed | | | |
| *Heating installation: heat exchanger type* | *Location* | *Criteria temp.* | *Air change rate* | *Reasons and comments* | | |
| Low pressure accelerated hot water system and unit heaters | Production area | 62½° for 30° externally | 1 to 5 natural changes depending control of natural extracts | Unit heaters at high level allow for flexibility of layout. | | |
| | Offices and canteen | 65° for 30° externally | 2 changes per hour | In production area radiators to offices | | |
| | | | | **Plumbing: sanitary fittings** | **0** | **3** |
| *Boiler type and capacity* | *Location* | *Head load and fuel type* | *Stoking method* | *Reasons and comments* | | |
| Cast iron sectional 1,302,000 B.Th.U. | Separate boiler house | Light fuel oil | Automatic feed from oil storage tank | Immersion heater for summer use | | |
| *Water heater type* | *Location* | *Fuel type* | *Stoking method* | *Reasons and comments* | | |
| Off heating system by means of a calorifier | | | | | | |
| | | | | **Heating installation, boiler type and capacity water heater type** | **4** | **11** |
| *Drainage: type of system* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Two pipe system, foul and surface waste | Generally | Glazed stoneware enclosed in concrete under buildings | | | | |
| | | | | **drainage** | **1** | **6** |
| *Kitchen ventilation* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Ventilation hood | Over kitchen equipment | Metal frame glazed with ¼-in. wired rough cast glass | | Ventilated by two extractor fans | | |
| *Gas installation* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| 3-in. gas main | Production area, canteen and boiler house; with runs in ducts | Gas barrel | | Separate metering to canteen and production area | | |
| | | | | **gas installation** | **0** | **2** |
| *Electrical installation source and fitting type* | *Location* | *Illumination level* | *Quality* | *Reasons and comments* | | |
| 80 watt fluorescent 5 ft. troughs | Production area and offices | 15 lumens per square foot on working plane | | | | |
| *Power supply type* | *Location* | *How distributed* | | *Reasons and comments* | | |
| 415/240 volts a.c. 50 cycles | Generally | Cables or trunking | | | | |
| | | | | **electrical installation power supply type** | **2** | **0** |
| *Paved areas* | *Location* | *Materials* | | *Reasons and comments* | | |
| Car parks and service road | Generally | 8-in. reinforced concrete slab | | | | |
| Entrance porch | Main entrance | 2-in. paving slab and 2-in. terrazzo | | | | |
| | | | | **paved areas** | **4** | **11** |
| | | | | **total net cost per sq. ft. of floor** | **42** | **4** |

## THERMAL INSULATION

| *Type* | *Location* | *U-value* | *Reasons and comments* |
|---|---|---|---|
| Asbestos cavity decking and ½-in. insulation board ceiling | Production area and canteen | 0·23 | White mineral finish to roofs has a high reflection factor to minimise absorption of heat rays |
| Asbestos sheet 2 in. cavity ½ in. insulation board wall cladding | Production area | 0·25 | |

**analysis**

## SPECIAL ACOUSTICAL TREATMENT

| *Sound absorption material* | *Location* | *Absorption coefficient not determined* | *Reasons and comments* |
|---|---|---|---|
| Ceilings and walls, ½-in. fibre board lining | Production area | | Sound deadening effect achieved |

| *Sound insulation* | *Location* | *Reasons and comments* |
|---|---|---|
| 1 in. compressed fibreglass | Office floors, laid under screed | To reduce transmission of impact noises |

## FIRE

| *Structural precautions* | *Grade of protection* | *Reasons and comments* |
|---|---|---|
| Production area | Class 1 for firespread to all finishes | The 9-in. division wall between production area and offices acts as a fire break |
| Office block | 4-hour fire resistant construction | |

| *Planning precautions* | *Access for fighting* | *Means of escape* | *Reasons and comments* |
|---|---|---|---|
| Boiler and fuel store and canteen separated from main building and offices | Roads on three sides of building | To County Fire Officer's requirements, with escape doors from production area and secondary staircase in office block | Water hydrants provided in access roads |

## TIME SCHEDULE

| | | | |
|---|---|---|---|
| Drawings | Phase January 1/May, 1954 | Work completed | June 2, 1955 |
| Tender date | June 22, 1954 | Type of contract | RIBA Local Authority |
| Contract signed | June 30, 1954 | Comments | Extension phase 2 started during currency of contract |
| Work commenced | July 12, 1954 | | |
| Drawings | Phase 2, December, 1954/February, 1955 | Work completed | November 12, 1955 |
| Tender date | February 20, 1955 | Type of contract | Negotiated on phase 1 |
| Contract signed | February 22, 1955 | | |
| Work commenced | March 12, 1955 | | |

## RATIOS

| | | | |
|---|---|---|---|
| Area of enclosing walls / Total floor area | = 0·386 / 1 | Area of windows (including external doors) / Total floor area | = 0·112 / 1 |
| Area of solid wall / Total floor area | = 0·276 / 1 | Total roof area / Total floor area | = 0·935 / 1 |

## COST DETAILS

| | | | |
|---|---|---|---|
| Total ground floor area of superstructure | 47,954 sq. ft. | Tender cost of foundations | £10,000 |
| Total first floor area | 3,376 sq. ft. | Tender cost of ancillary buildings and external works | £16,600 |
| Tender date June 22, 1954 | | Gross total cost | £108,825 |
| Tender cost of superstructure | £64,725 | Cost per ft. super of floor area | £2 2s. 4d. |
| Installations and finishes | £17,500 | Cost per ft. cube | 2s. 5d. |

## COST COMMENTS

In this analysis the costs embrace the production area, the office blocks and the boiler-house and garages. The specification and tendering conditions of this factory follow very closely the Hilmor factory, Stevenage, where the production area and the office block were separated. Thus we may compare frame, first floor and staircase, roof and covering, external walls and facings, ceilings, rainwater disposal etc., in both contracts. Frame: Hilmor: 5s. per sq. ft., Tabulating factory: 4s. 5d. (including its proportion of preliminaries). Total cost: 51,330 × 4s. 5d. = £11,335 which is used only in the production area (40,000 sq. ft.) and canteen area (3,000 sq. ft.). The true cost of frame per sq. ft. of floor area actually covered now becomes £11,335 divided by 43,000 = 5s. 3d. (including preliminaries). This is almost identical with Hilmor (4s. 4d. including preliminaries). Two important elements of the Tabulating factory which differ from Hilmor are these: (*a*) Wood block is used in the production area instead of *in situ* granolithic. (*b*) The criteria temperature and air change are almost identical. Hilmor: solid fuel boiler of 1,132,000 B.T.U. The cost can be obtained as follows: production area: 19,000 sq. ft. at 2s. 7d. = £2,254. Office block: 5,000 sq. ft. at 3s. 10d. = £958. Total: 24,000 sq. ft. amounting to £3,412 or approximately 3s. 1d. (including preliminaries). Tabulating factory: automatic oil-fed boiler of 1,302,000 B.T.U. Cost: 4s. 11d., but account must also be taken of such factors as the greater cubic capacity to be heated, fuel supply and storage, etc. The Tabulating factory can also be compared with the factory at Poole (AJ, May 17, 1955), but the latter has a single storey production area without single or double storey office blocks.

## SITE ORGANISATION

*Site labour and equipment:* Approximate labour force of 60—organized by Trades Foremen, supervised by an Agent.

*Equipment:* Ruston 10RB for site clearance and reducing levels. 10/7 concrete mixer with integral weigher. Mobile hoist. Petrol generator for working small power tools.

*Sub-letting:* Plastering: Pollock Bros. (London) Ltd. Plumbing: Matthew Hall & Co. Ltd.

*Job management:* Job was preplanned and co-ordinated with Head Office prior to commencement and throughout the job using progress charts. Site meetings were held every four weeks to discuss progress. There was a Site Agent and a Visiting Contracts Manager who visited approximately twice per week.

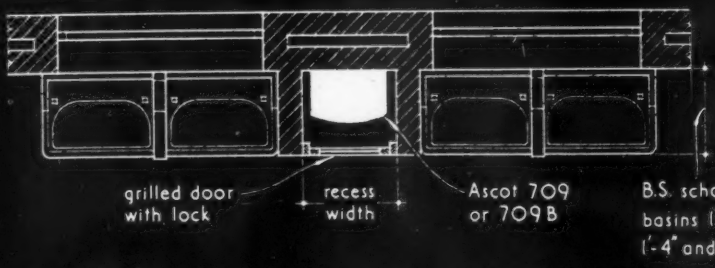
## CONTRACTORS

*Clerk of Works:* T. S. Shearer. *General Contractors:* John Laing & Son Ltd. *Sub-contractors: Reinforced concrete:* Diespeker Ltd. *Bricks:* E. A. Smith Ltd. *Special roofings:* Brock Roofing Ltd. *Roofing felt:* Brock Roofing Ltd. and Macartney Ltd. *Glass:* F. Bowman Glasswork Ltd. *Patent glazing:* Faulkner, Greene & Co. Ltd. *Wood block flooring:* Phillips Flooring Co. Ltd. *Artificial stone:* Atlas Stone Co. Ltd. *Structural steel:* Boulton & Paul Ltd. *Patent flooring:* Semtex Ltd. *Gas fitting:* Eastern Gas Board. *Electric wiring:* Holliday, Hall & Stinson Ltd. *Boilers and central heating:* James Combe & Son Ltd. *Metal balustrades:* B. Finch & Co. Ltd. *Ventilation:* James Combe & Son Ltd. and Colt Ventilators Ltd. *Plumbing:* Mathew Hall & Co. Ltd. *Door furniture:* Alfred G. Roberts Ltd. *Casements and window furniture:* Crittall Manufacturing Co. Ltd. *Signs:* The Lettering Centre Ltd. *Paint:* T. H. Kenyon & Sons Ltd. *Joinery:* Rippers Ltd. *Tiling:* Carter & Co. Ltd. and Parkinson (Wall Tiling) Ltd. *Plaster:* Pollack Bros. Ltd. *Sanitary fittings:* Ashley Brandon Ltd. *Folding doors:* Esavian Ltd.

# WATER HEATING | UNITS | GAS



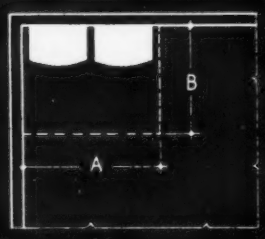
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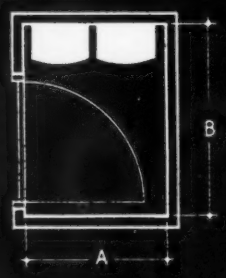

| no of Ascots | no of basins | recess width |
|---|---|---|
| 1 | 4 | 1'-6" |
| 2 | 8 | 3'-0" |

H. W. SUPPLY TO BASINS BY ASCOT 709 or 709B MULTI-POINT HEATERS IN RECESS WITH PROTECTIVE GRILLE.

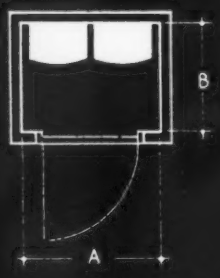
| basins | heaters 709 or 709B | showers | heaters 709 or 709B | minimum space allowance — existing store | | minimum dimensions — cubicle type 1 | | minimum dimensions — cubicle type 2 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | A | B | A | B | A | B |
| 4 | 1 | 2 | 1 | 1'-6" | 2'-3" | 3'-0" | 4'-0" | 3'-0" | 2'-3" |
| 8 | 2 | 4 | 2 | 3'-0" | 2'-3" | 3'-0" | 4'-0" | 3'-0" | 2'-3" |
| 12 | 3 | 6 | 3 | 4'-3" | 2'-3" | 4'-3" | 4'-0" | 4'-3" | 2'-3" |
| 16 | 4 | 8 | 4 | 5'-9" | 2'-3" | 5'-9" | 4'-0" | 5'-9" | 2'-3" |




existing store



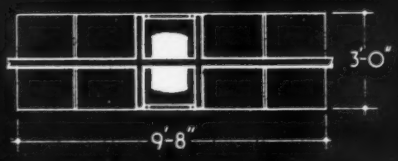

cubicle type 1



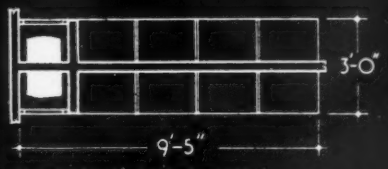

cubicle type 2

note: a minimum of 15 sq. in. effective ventilation for each water heater must be provided in store or cubicle

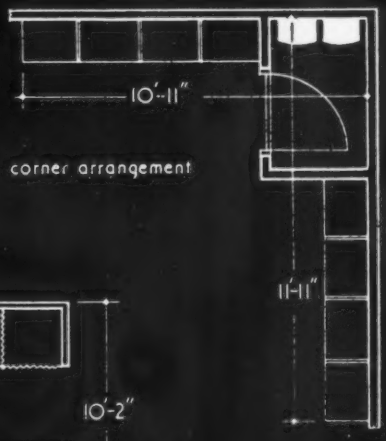
TABLE AND DIAGRAMS GIVING MINIMUM SPACE REQUIREMENTS: BASINS OR SHOWERS.




symmetrical arrangement

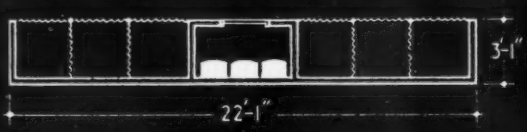



asymmetrical arrangement

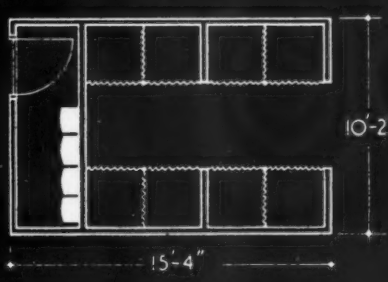



corner arrangement

TYPICAL BASIN FEEDING ARRANGEMENTS.




TYPICAL SHOWER FEEDING ARRANGEMENTS.




dimensions are based on:
4" partition walls
1'-10" x 1'-4" basins
2'-9" sq. showers

ASCOT INSTANTANEOUS GAS WATER HEATERS: APPLICATIONS: SCHOOLS. Manufacturer: Ascot Gas Water Heaters Ltd.

# 32.C26 ·ASCOT· INSTANTANEOUS GAS WATER HEATERS : APPLICATIONS : SCHOOLS

**This Sheet** describes water-heating installations in schools using Ascot instantaneous gas water heaters. School plans often consist of single-storey buildings widely dispersed on the site. For this reason or because intermittent supplies are required, it is frequently more practical and economical to provide a hot water supply to sports' pavilions, caretaker's quarters, special subject rooms, administration blocks, and points for the use of cleaners by means of local heating equipment, rather than to employ long pipe runs from the central water heating installation. Ascot instantaneous gas water heaters efficiently supply basins and showers, either singly or in groups, remote from the boiler house, the installation of the heaters being a simple proposition. The supply of hot water from the heaters is immediate, continuous and economical, as there are no storage losses and gas is only consumed when hot water is being used.

For general particulars of Ascot heaters, see Sheets 32.C20, 32.C21, 32.C22, 32.C24, 32.C31 and 32.C32.

These water heaters do not require full-time attention and with normal use maintenance is only necessary twice annually. During school shut-down periods the heater installations may be easily drained, thus guarding against frozen and burst pipes.

### Installation

The following factors should be taken into consideration when planning multi-point instantaneous gas water heating installations supplying school showers and basins.

1. The lengths of draw-off piping should be as short as possible (see Sheet 32.C22).

2. Provision must be made for an efficient flue, which should be built in as recommended by British Standard Codes of Practice C.P.331.104:1947—*Flues for Gas Appliances*—paragraph 301, which states: *In new buildings it is desirable that flues should be integral with the structure, but where this is not possible and additional flues are required they should be carried up inside the building.*

3. The installation should be planned so that the heaters are inaccessible to children, as recommended in paragraph 14L of the memorandum on the Building Regulations of the Education Act (1944), 24th March, 1945, which states: *Where localised systems for providing hot water are fixed in lavatory compartments they should be so placed or protected as to eliminate danger to the children.*

4. Any cubicle or storeroom in which heaters are installed must have adequate ventilation to ensure satisfactory combustion. This may be ensured by building cubicles of open mesh material ; by providing a grille instead of solid doors, or by a minimum of 15 sq. in. effective ventilation area for each water heater by means of air bricks or a section cut from the top or bottom of the door. Where an open mesh grille is specified a pilot-guard—available from the manufacturers—should be fitted to the heaters, particularly in the case of a cloakroom with cross ventilation, in order to ensure that the pilot flame does not become extinguished.

*Note:* Factors 2 and 4 are covered adequately where multi-point heaters type 715 or 715/1 are installed (see Sheets 32.C31 and 32.C32).

### Existing Schools—Conversions

Where an additional hot water supply is required in existing school buildings, instantaneous water heating by gas may be adopted to form a simple installation without recourse to the structural alterations which would otherwise be necessary in the event of the original large boiler plant being used.

### Water Supply to Heaters

The diagrams on the face of Sheet show the number of heaters type 709 or 709B, and the installation space required to supply various numbers of basins and showers.

*Basins :* Head of water required: 10-12 ft. measured vertically from the level of water in the tank to the basin taps, plus allowance for controlled mixing facilities. Paragraph 14K of the memorandum on the Building Regulation of the Education Act (1944), states: *To prevent scalding, particularly in the case of younger children, controlled mixing facilities should be provided for basins and for showers.* For further information the manufacturers should be consulted.

*Piping :* ¾ in. i.d. with short ½ in. branches to the basins.

*Rate of flow from heater :* Approximately 2½ gal./minute at hand washing temperature of 105-110° F.

*Showers :* Head of water required: 14 ft. measured vertically from the level of the water in the tank to the shower roses, using ¾-in. inlet, 6-in. roses capable of passing 2 gal./minute at 6-ft. head, plus allowance for controlled mixing facilities. For further information the manufacturers should be consulted.

*Piping :* ¾ in. i.d. throughout.

*Rate of flow from heater :* Approximately 2½ gal./minute at shower temperature of 100-105° F.

*Compiled from information supplied by:*

**Ascot Gas Water Heaters, Ltd.**
**Head Office and Works :** 255, North Circular Road, Neasden, London, N.W.10.
**Telephone:** Willesden 1234.
**Telegrams:** Gascot, Phone, London

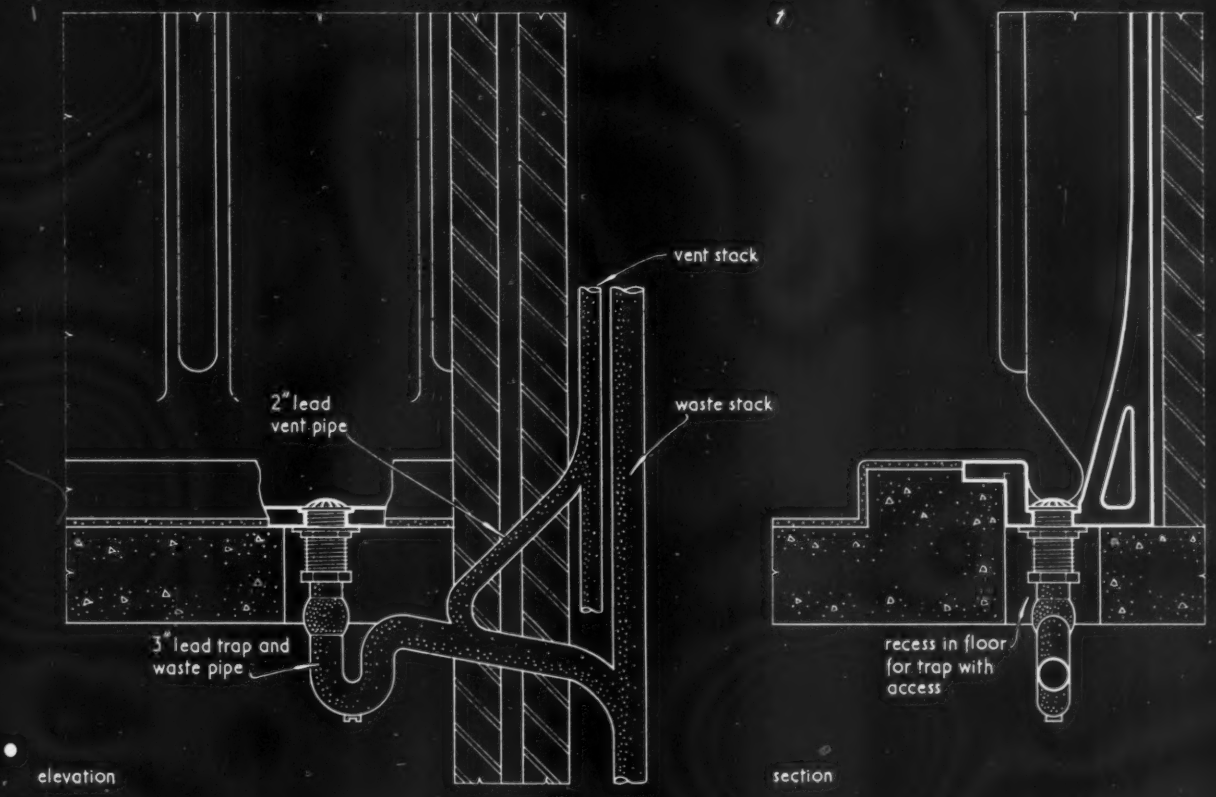
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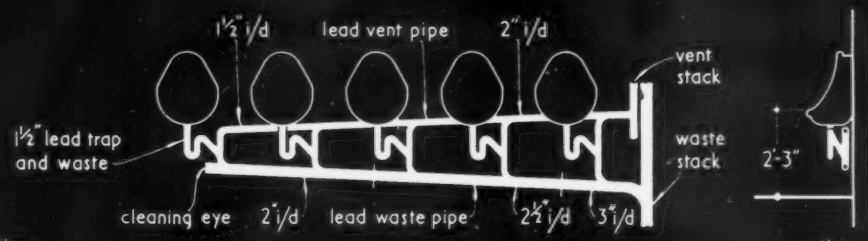





elevation

section

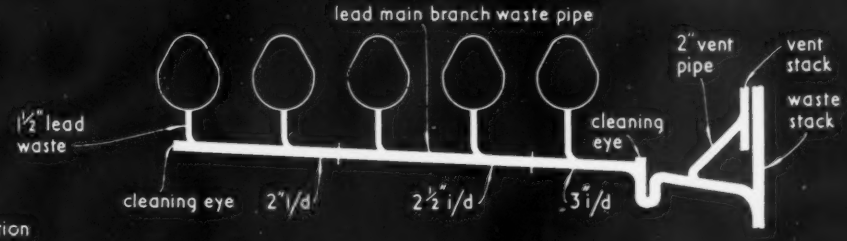
RANGE OF URINAL STALLS.




elevation

section

ventilated trapped waste to each appliance




elevation

appliances connected to common waste and trap

RANGE OF URINAL BASINS.

**LEAD PLUMBING TO URINALS.** Compiled from information supplied by The Lead Sheet and Pipe Council.

# 33.C9 LEAD PLUMBING TO URINALS

**This Sheet** supersedes Sheet 33.C9 published 24.11.49 and sets out the general principles of lead plumbing to urinals. For the best type of installation the appliances commonly used are separate urinal stalls or urinal basins, built in a range of two or more appliances. The ranges are usually sited along a wall but groups arranged as an " island " are also used.

### Urinal Stalls

Urinal stalls are designed so that the discharge from each stall is collected in an open channel at the foot. One outlet to the channel is provided for each range of up to six stalls with extra outlets for larger ranges. The waste pipe from the outlet is trapped immediately beneath the appliance and a trap ventilating pipe fitted if required.

*Pipe sizes:* The sizes of waste and waste ventilating pipes should be as follows:—

| No. of stalls in range | Waste pipe | | Trap ventilating pipe | |
|---|---|---|---|---|
| | int. dia. (in.) | wt. (lb./yd.) | int. dia. (in.) | wt. (lb./yd.) |
| 1 or 2 | 2 | 10 | 1½ | 7 |
| 3 or 4 | 2½ | 12 | 2 | 10 |
| 5 or 6 | 3 | 15 | 2 | 10 |

(The weights of lead pipe recommended are as given in B.S. 602: 1956 *Lead pipe for other than chemical purposes.*)

### Installation

*Ground floors:* Since urinal stalls are built in, it is normal and convenient where the range is on a ground floor, to include in this operation the building in of a drain and drain connections of stoneware or glass enamelled iron.

*Upper floors:* Where the range of stalls is on an upper floor the traps and branch waste pipes are most satisfactorily formed in lead pipe which is highly resistant to the very corrosive effluent carried. Adequate access to the trap and branch pipe for inspection and clearing is necessary.

*Water seal of traps:* The depth of seal for the trap of a urinal waste should be 1½ in. where the waste is connected to a soil pipe of a two-pipe installation, but 3 in. where it is connected to a combined soil and waste pipe of a one-pipe installation.

*Fall of waste pipe:* A suitable fall is ¼ in. to ½ in. in 1 ft. and similarly a suitable rise for trap ventilating pipes is ¼ in. to ½ in. in 1 ft.

### Urinal Basins

The plumbing to urinal basins, each of which has a separate outlet, is similar in principle to that for lavatory basins (see Sheet 33.C1). Suitable sizes of waste pipes are as given above for urinal stalls except that a waste pipe serving one urinal basin need be only 1½ in. i/d (7 lb. per yd.) to correspond to the size of the outlet on the appliance.

*Separate trap to each basin:* As with lavatory basins the usual requirement is that the waste from each urinal basin be trapped immediately beneath the appliance. A common waste pipe serves the range of appliances and each trap is ventilated and connected to the open air by a common vent pipe.

*Common trap to all basins:* Another arrangement is to connect the waste branch pipe from each appliance, without a trap, direct to a common waste branch pipe which is itself trapped before it connects to a main pipe. If the length of the untrapped pipe is not excessive and in view of the fact that the appliances and pipes are flushed automatically at regular intervals, this arrangement may be accepted by some authorities.

### Further Information

The Lead Sheet and Pipe Council maintains a Technical Information Bureau which is available to answer questions and advise on technical problems dealing with this subject generally.

*Compiled from information supplied by:*
**The Lead Sheet and Pipe Council.**
**Address :** Eagle House, Jermyn Street, London, S.W.1.
**Telephone :** Whitehall 4175

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working detail



SHOPFRONT: STORE IN SOUTHAMPTON

*Yorke, Rosenberg and Mardall, architects*



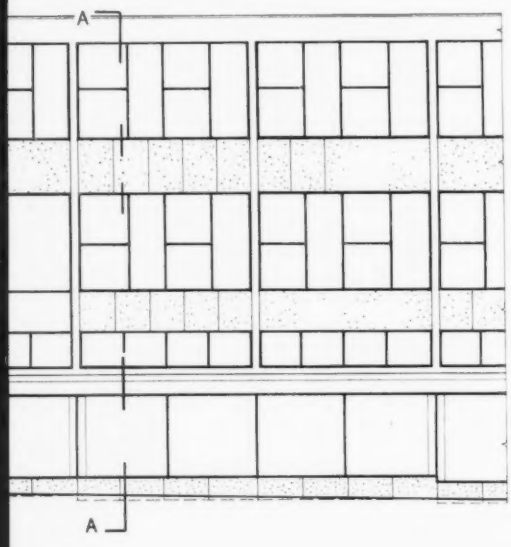

*The building is designed to take additional storeys at a later date, as will be seen from the drawing where provision for the cramps of future slate facing panels is made behind the Portland stone fascia.*

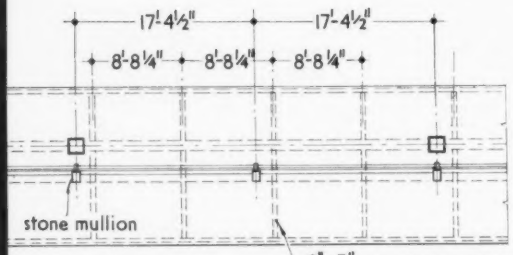
working detail



# SHOPFRONT: STORE IN SOUTHAMPTON

*Yorke, Rosenberg and Mardall, architects*




KEY PLAN AND ELEVATION. scale: 1/16"=1'-0"



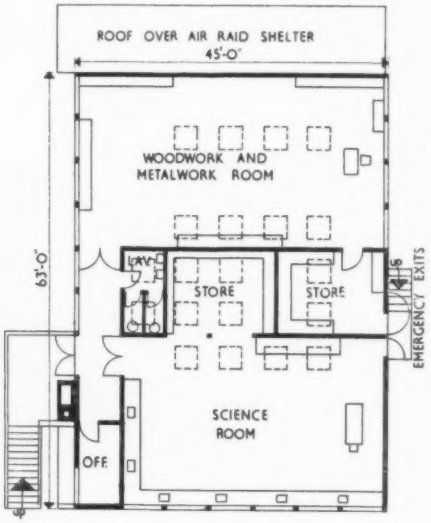

SECTION A-A THROUGH FACADE. scale: ¾" = 1'-0"



## BUILDINGS IN THE NEWS



School Extension, Nottingham.

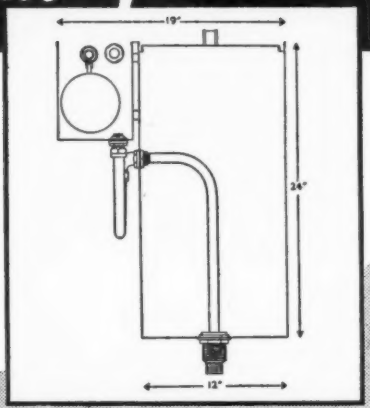



Floor plan [Scale: $\frac{1}{24}$" = 1' 0"]

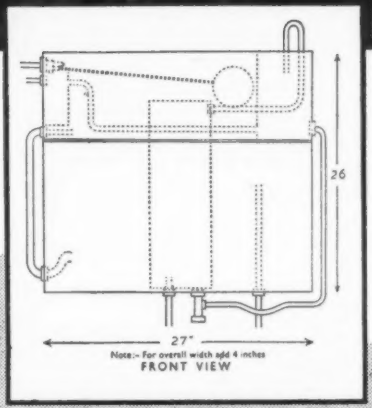
*An extension, with an area of just over 2,800 sq. ft., was required for St. Bernadette's Roman Catholic Secondary School, Nottingham, to provide additional technical facilities. The building which was designed by Samuel Morrison and Partners (assistant-in-charge, R. T. Dennis; assistants, G. J. W. Thomas and I. Holmes-Siedle), had to be separated away from the main school, due to site restrictions. The site contained a number of existing air raid shelters, which had to be retained, and the extension is partly built over one of them. The superstructure is in the Derwent system of timber construction on a substructure of 9-in. brickwork. The contract price was £7,500. The general contractor was N. H. Herries.*

To get you out of HOT WATER Troubles

Specified by Local Authorities, Architects and Heating Engineers throughout the country.




DURHAM

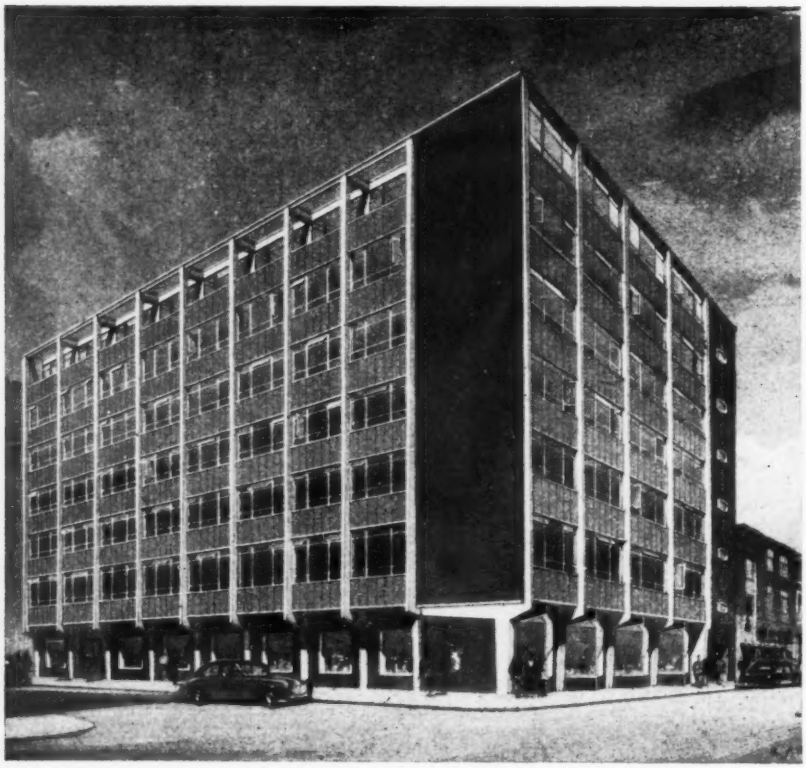



CALORIFIER

ROLYAT PATENT HOT WATER TANKS

THE ROLYAT TANK CO. LTD. · CROMWELL ROAD · YORK

## BUILDINGS IN THE NEWS (continued)



**Proposed Offices for Inland Revenue, Newington Causeway.**

*These proposed offices now under construction at Newington Causeway, Southwark, on a site adjoining the future Elephant and Castle Redevelopment Scheme, will be mainly occupied by the Department of Inland Revenue. The block, which will be of seven-storeys, was designed by K. W. Bland, Chief Architect of Wates Ltd., who are general contractors for the building. The consulting engineer is W. V. Zinn and the consultants services, Donald Rudd & Partners. The reinforced concrete frame will be exposed externally. The offices, which are expected to be completed early next year, will cost about £300,000.*


First in the field — and still the best

TRUE FLUE TRIPLE UNITS

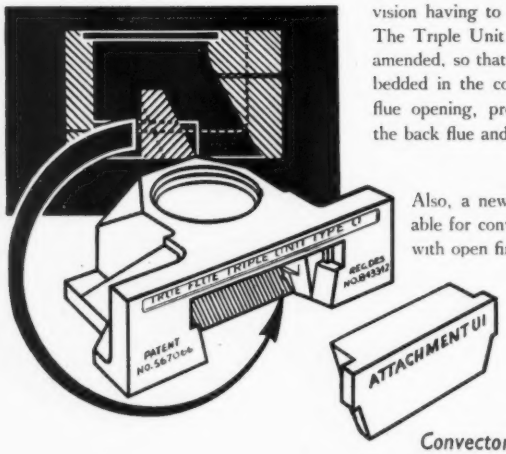
PATENT NO 567066
REGD. DES NO 843342

NEW!

MEMBRANE ATTACHMENT
for back boiler flues

Difficulty has been experienced in the past in adequately throating the "gather-over" above a back boiler appliance owing to provision having to be made for the back flue. The Triple Unit Type "U" has now been amended, so that the Membrane Unit can be bedded in the correct position spanning the flue opening, providing adequate space for the back flue and correctly throating the fire.

Also, a new Back Attachment is available for converting Triple Units for use with open fires.






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TRUE FLUE LTD
—anything in refractory concrete

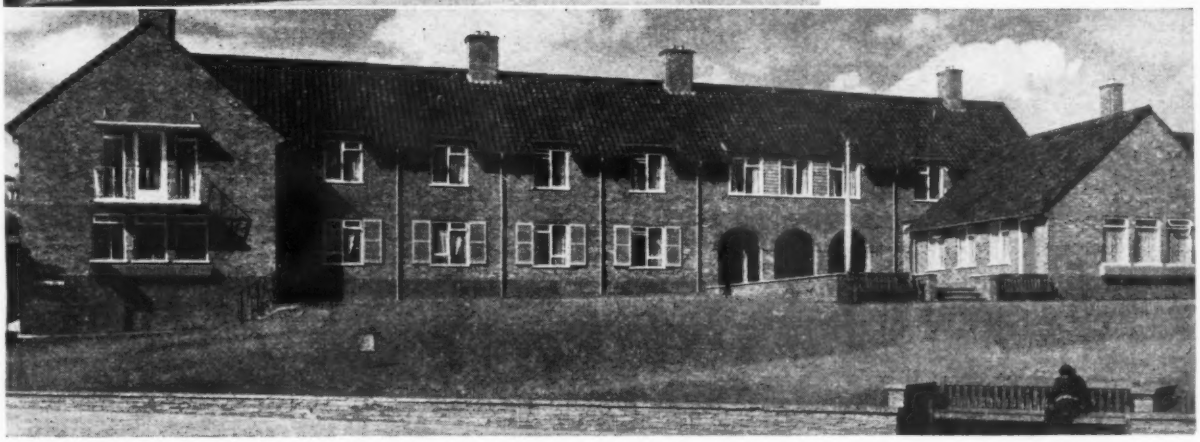
Convector House · Acacia Road · St. John's Wood, N.W.8 Tele : Primrose 7161/2



# Old People's Homes, Cambridge

*NORTHAMPTON STREET*

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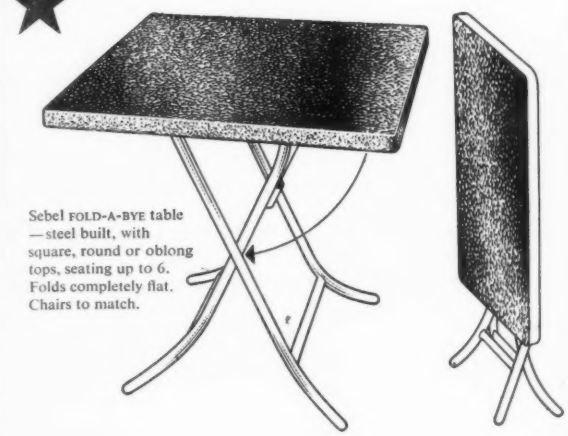
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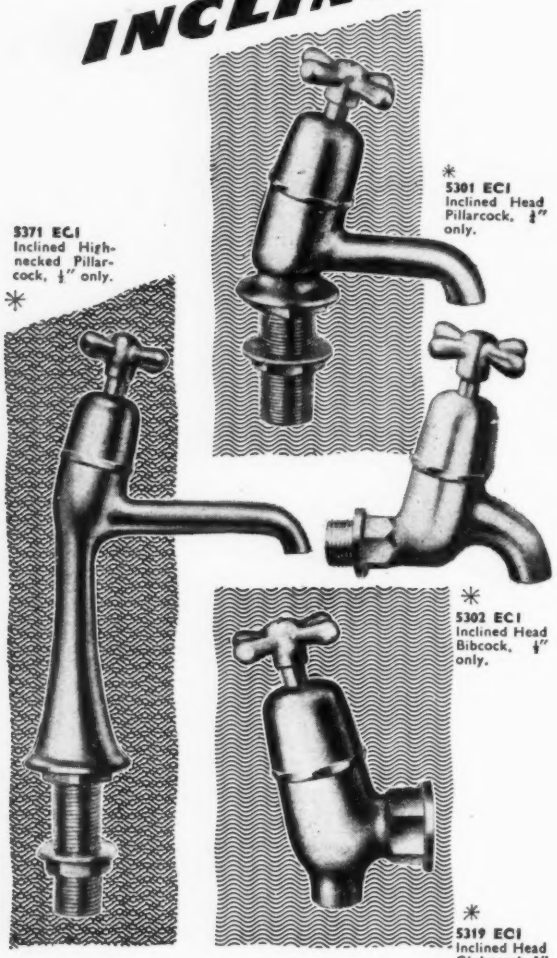
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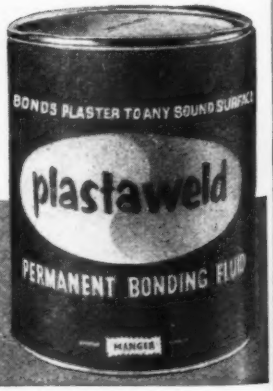
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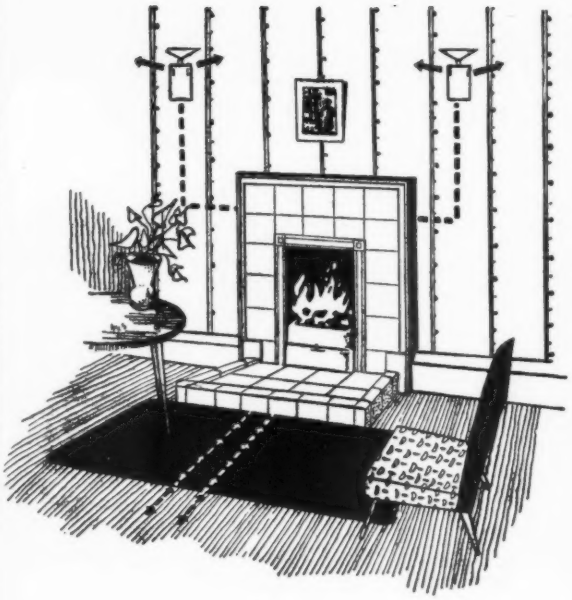
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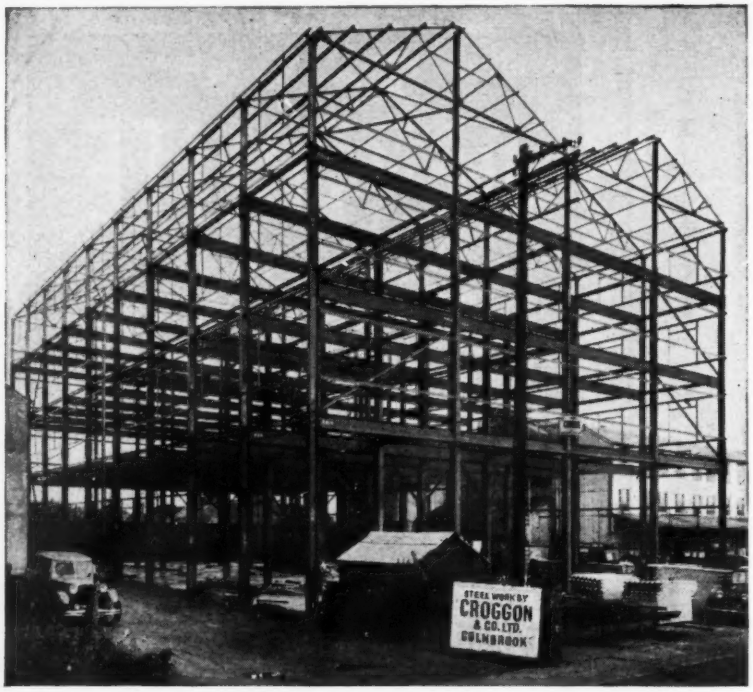
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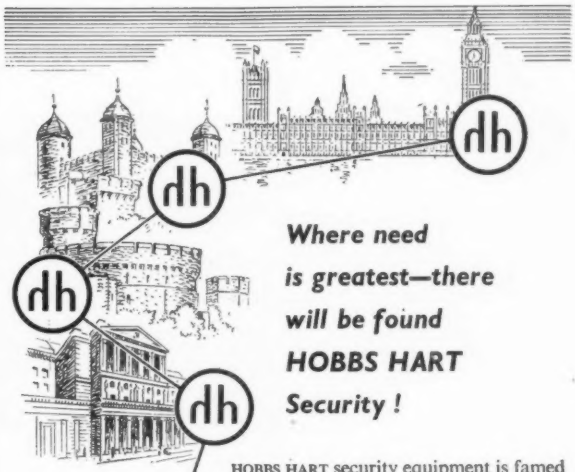



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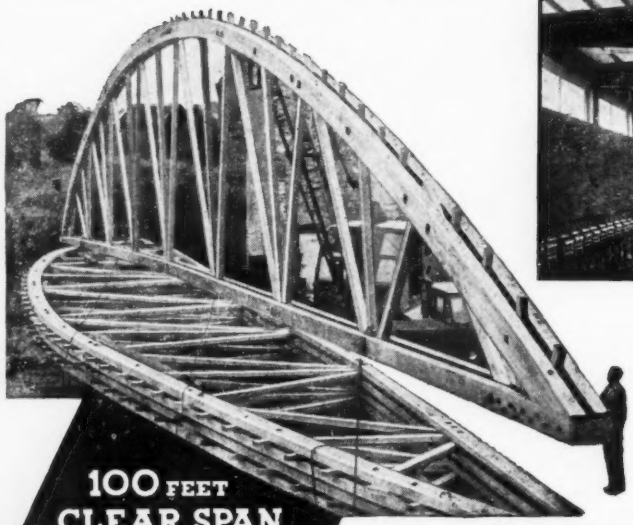
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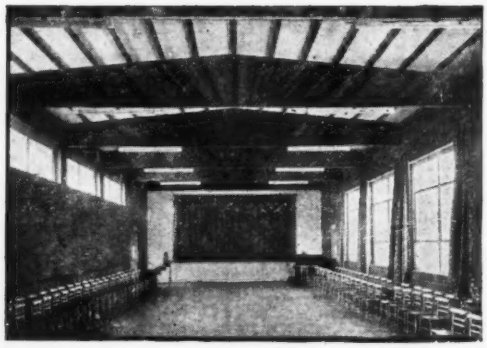
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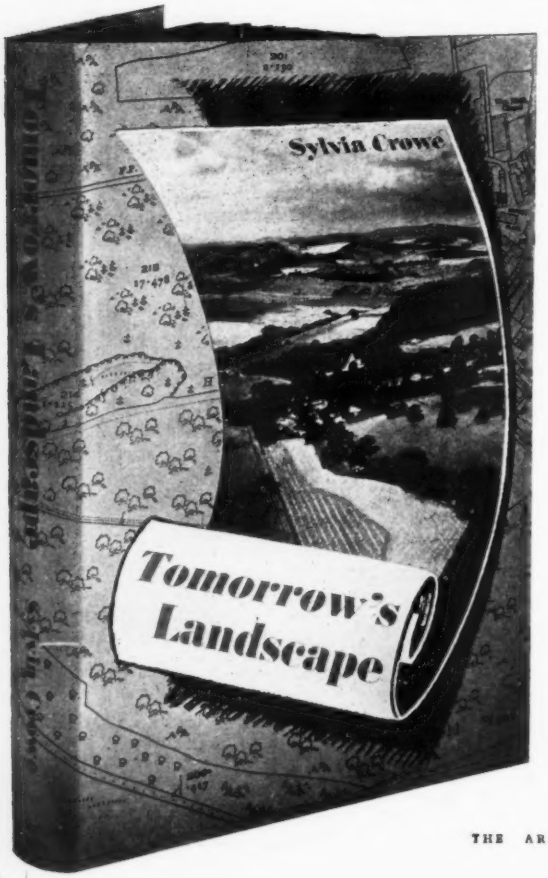
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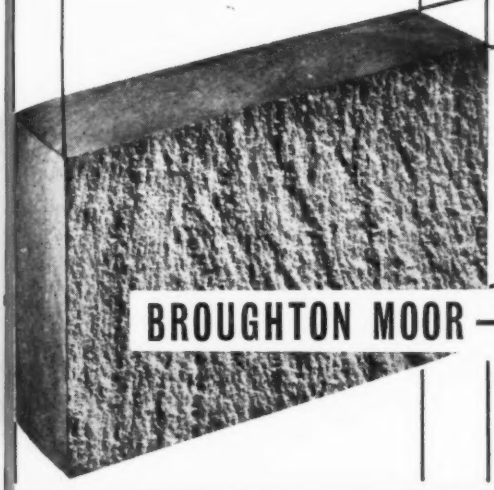
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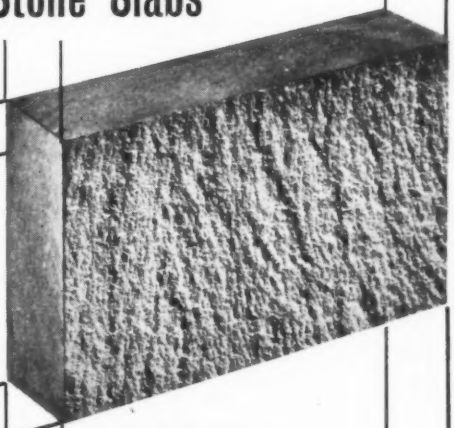
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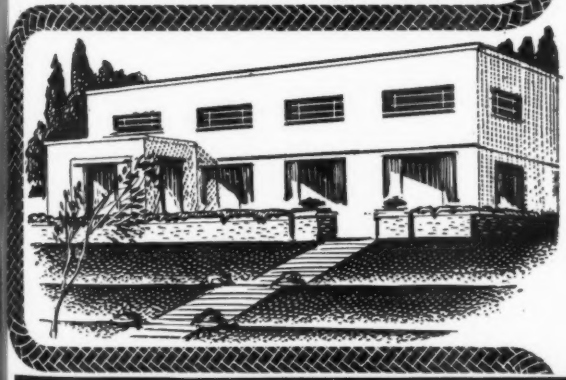
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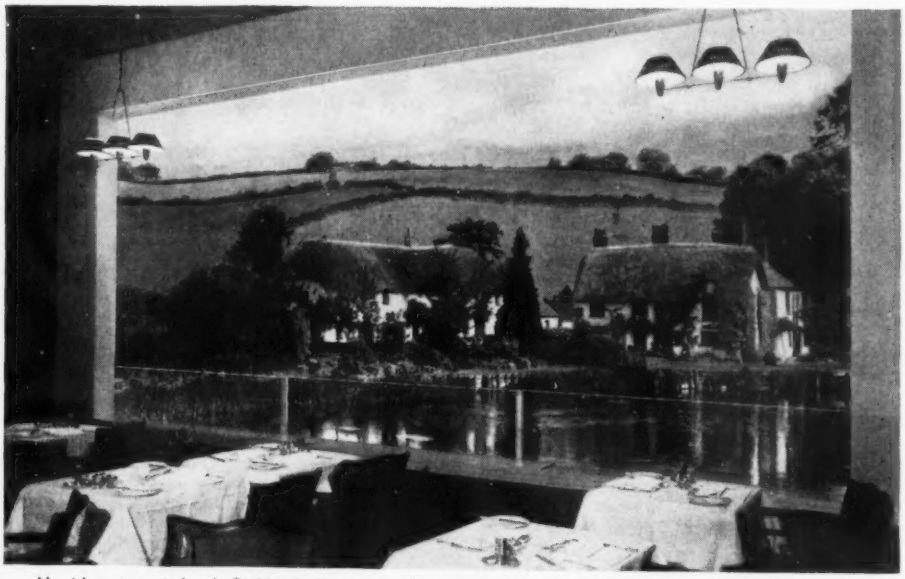
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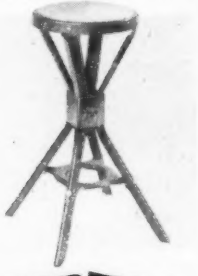
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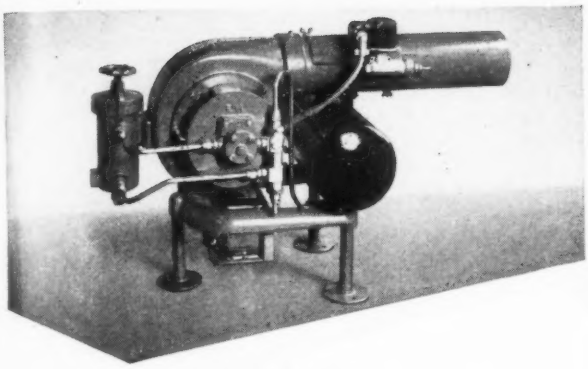


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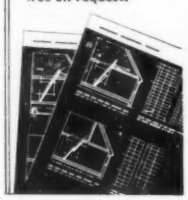
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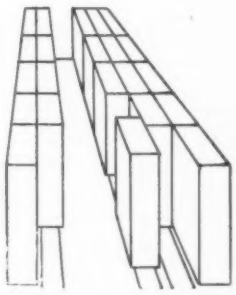
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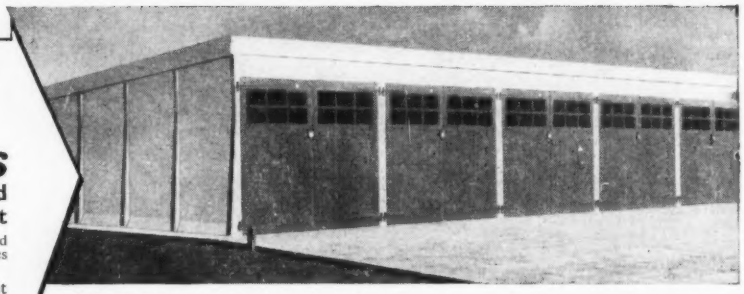
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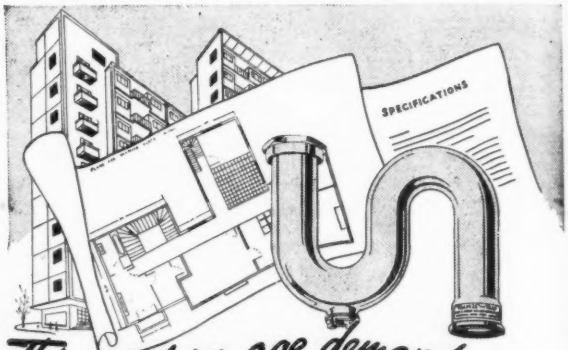
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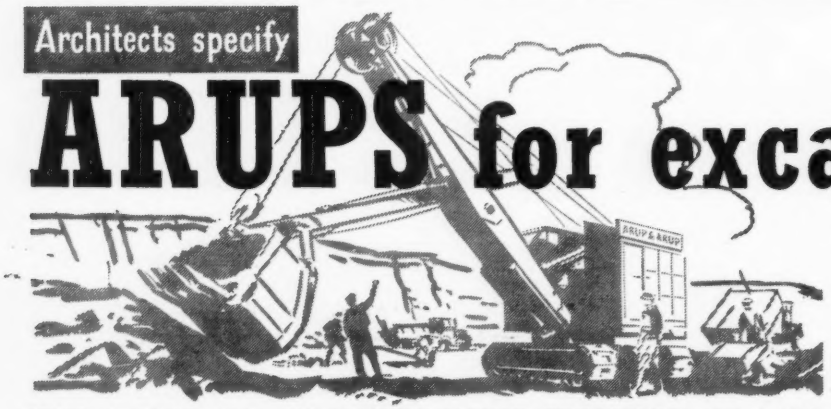
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# CLASSIFIED ADVERTISEMENTS

*Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.*

*Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.*

## Public and Official Announcements

*25s. per inch; each additional line, 2s.*

CITY OF CANTERBURY

Applications are invited for the permanent appointment of a CHIEF TOWN PLANNING ASSISTANT, A.P.T. V (£795—£970).

Applicants for appointment must be Associates of the R.I.B.A. and T.P.I. They must have general planning experience and also be capable of dealing with three dimensional design problems, particularly in connection with redevelopment and reconstruction.

The commencing salary for the appointment will be fixed within the Grade, according to ability and experience.

Applications, together with names of two referees, must reach the City Architect and Planning Officer, Mr. L. Hugh Wilson, O.B.E., A.R.I.B.A., A.M.T.P.I., not later than 14th September, 1956.

Canvassing will disqualify.

J. BOYLE,
*Town Clerk.*

Municipal Buildings, Canterbury. 3030

BOROUGH OF ASHTON-UNDER-LYNE

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department within the respective grades, according to experience.

(*a*) SENIOR ASSISTANT (QUANTITIES), Grade IV (£710—£885).
Qualifications: A.R.I.C.S. or equivalent.

(*b*) SENIOR ARCHITECTURAL ASSISTANT, Special Grade (£690—£840).
Qualifications: Registered Architect, with good experience in the design and construction of Municipal houses, flats and public buildings.

There is a full and varied programme of building work, and both positions offer opportunities for taking responsibility and supervising work in progress.

HOUSING ACCOMMODATION WILL BE PROVIDED IF REQUIRED.

Application forms may be obtained from the Borough Surveyor, Municipal Offices, Ashton-under-Lyne, and should be returned to the undersigned by 17th September, 1956.

G. A. MALONE,
*Town Clerk.*

Town Hall, Ashton-under-Lyne.
21st August, 1956. 3024

WARWICKSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECTS, Grade A.P.T. V (£795—£970). Applicants must be competent designers, having a knowledge of modern methods of construction and be capable of handling large building projects from sketch plan stage to completion.

(*b*) ARCHITECTS, Grade A.P.T. IV (£710—£885). Applicants must be competent designers, having a good knowledge of construction and be capable of handling medium sized contracts.

(*c*) ASSISTANT ARCHITECTS (scale £690—£840). The successful applicants will work in teams on large projects, but opportunity will be given to men with enthusiasm and ability to design and carry out smaller projects under the Group Architect.

The commencing salaries can be within the grades according to the ability and experience. The appointments are on the established staff, and subject to the Scheme and Conditions of Service of the National Joint Council for Local Authorities and the Local Government Superannuation Acts, 1937-1953. Successful candidates will be required to pass a medical examination.

The Council is unable to offer successful candidates housing accommodation.

Applications are to be on forms which can be obtained from G. R. Barnsley, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
*Clerk of the Council.*

Shire Hall, Warwick. 2098

METROPOLITAN BOROUGH OF CHELSEA

Applications are invited for the established appointment of SENIOR ARCHITECTURAL ASSISTANT (A.P.T. IV/V, £710—£970). Applicants should have had a sound architectural training and experience. Preference will be given to Associates of the R.I.B.A. The person appointed will be required to assist with the design of new dwellings and the conversion of existing houses into flats, and must be competent to prepare working and detail drawings.

The appointment is subject to the National Scheme of Conditions of Service, and will carry the appropriate London "weighting" allowance.

Apply stating age, education, experience, qualifications, and three referees, to the Town Clerk, Town Hall, Chelsea, S.W.3, by Wednesday, 12th September. Canvassing disqualifies. 3001

BUCKS COUNTY COUNCIL

Vacancies exist in the County Architect's Department for young qualified ARCHITECTS to work on progressive Architecture. Salaries ranging between £690 and £885 p.a., according to ability of people appointed.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applicants should write, giving full details, not later than Monday, 17th September, 1956.

F. B. POOLEY,
*County Architect.*

County Offices, Aylesbury. 3007

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited for the post of SURVEYING ASSISTANT in the Regional Architect's Department. Salary scale: £510 (at age 21 or over), rising by £20 (5) × £30 (1) × £20 (1) × £25 (2) to £710 p.a., but starting salary may be fixed (within certain limits) according to years of appropriate practical experience since the passing of the Intermediate Examination of the R.I.C.S. or an examination recognised as the equivalent. Compulsory Superannuation. Applications, stating age, training, qualifications, previous experience and present salary, with the names of two referees, should be submitted to the Secretary, Oxford Regional Hospital Board, 43, Banbury Road, Oxford, by not later than 14th September, 1956. 2089

BOROUGH OF FINCHLEY
HOUSING AND TOWN PLANNING DEPARTMENT
ARCHITECTURAL ASSISTANT

Salary A.P.T. Grade II (£595 × £20—£675), plus London weighting.

Subject to satisfactory service, the duration of the post will be approximately two years.

Candidates should have passed the R.I.B.A. Intermediate Examination, and preference will be given to those with practical office experience in housing work.

The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply, and medical examination required.

Applications, stating age and full particulars of qualifications and experience, with names of two referees, to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by first post on Wednesday, the 12th September, 1956.

R. M. FRANKLIN,
*Town Clerk.*

Municipal Offices, Finchley, N.3. 2086

BOROUGH OF WATFORD
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment within Grade A.P.T. II (£595—£675) per annum.

Form of application returnable by 11th September, 1956.

F. C. SAGE,
*Borough Engineer, Surveyor and Architect.*

Town Hall, Watford. 2094

LONDON ELECTRICITY BOARD
SENIOR DRAUGHTSMEN

A vacancy exists for a Senior Draughtsman in the Southern Sub-Area (based at Beckenham, Kent). Applicants should have a sound general and technical education to Ordinary National Certificate standard in Building, and be capable of supervising draughtsmen.

A vacancy exists for a Senior Draughtsman in the Hampstead/Willesden district. Applicants should have a good general and technical education in Electrical Engineering and Building Construction, and experience in a mains records office dealing with systems of all voltages up to 11 kV., and be capable of supervising draughtsmen.

These posts are graded under Schedule "D" of the National Joint Board agreement as Grade 5 (£735 to £840 per annum inclusive).

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2. Please state the particular vacancy preferred, and quote ref. PER/2229/30/A. 3015

LANCASHIRE COUNTY COUNCIL

Applications are invited for the following permanent appointments:—

(*a*) STRUCTURAL ENGINEERS: (1) Within the salary scale £880—£1,080; (2) within the salary scale £795—£970.

(*b*) HEATING ENGINEERS: (1) Within the salary scale £880—£1,080; (2) within the salary scale £795—£970.

Applicants for:—

(*a*) should be corporate members of the Institution of Structural Engineers and have wide experience in the design of reinforced concrete framed structures; some knowledge of structural steel design would be an advantage;

(*b*) should be corporate members of the Institution of Heating and Ventilating Engineers and have had wide experience in the design of all types of heating and ventilating, cold water, and gas installations for all types of buildings. Applicants for the senior appointment should have held a responsible position, with an industrial background as an added qualification.

Previous applicants for the above appointments will be considered and therefore need not re-apply.

Application forms, from the County Architect P.O. Box 26, County Hall, Preston, to be returned by Monday, 1st October 1956, quoting position for which applying and Ref. A/AJ. 3078

DEPARTMENT OF MUNICIPAL AFFAIRS AND SUPPLY—PROVINCE OF NEWFOUNDLAND, CANADA
APPOINTMENT OF TOWN PLANNING ASSISTANT

Applications are invited for the above appointment in the Provincial Planning Office in St. John's. The appointment, which is established, is within a salary scale $4,900 × $100—$5,300. Duties include the preparation of Municipal Plans for communities throughout the Province. Applicants must have appropriate professional qualifications in Town Planning, together with considerable practical post graduate experience, preferably in County or Municipal Planning.

Please reply to the undersigned, giving details of age, experience, present salary and qualifications, together with recent testimonials or references.

DEPUTY MINISTER OF MUNICIPAL AFFAIRS.

St. John's, Newfoundland. 3048

LONDON ELECTRICITY BOARD
ARCHITECTURAL DRAUGHTSMAN

Applications are invited for the above position in the Architect's Section of the Chief Engineer's Department in Central London.

Applicants should be neat Draughtsmen and preferably have had several years' experience in an Architect's office.

The post is graded under Schedule "D" of the National Joint Board agreement, Grade 6—£588 to £714 per annum, inclusive of London Allowance.

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2. Please quote Ref. PER/2235/A. 3065

EAST RIDING OF YORKSHIRE COUNTY COUNCIL

Applications are invited for the appointment of a CHIEF QUANTITY SURVEYOR on the permanent staff of the County Architect. The salary to be in accordance with Grade VI of the N.J.C. Scales (£880—£1,080).

Applicants should be members of the Royal Institute of Chartered Surveyors and have had a wide experience in the preparation of estimates, specifications, bills of quantities, schedules, adjustment of final accounts and other work incidental to such an appointment, including the control of staff.

Applications giving particulars of age, past and present appointments with salaries, details of experience, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Friday, 14th September, 1956.

THOMAS STEPHENSON,
*Clerk of the Council.*

3076

GLOUCESTERSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

DIVISIONAL ARCHITECT, Grade "A" (£1,210 × £55—£1,320). N.J.C. Service Conditions; Superannuation; Medical Examination. Applicants should be associate members of R.I.B.A. and have had wide experience in projects usually dealt with by a County Council, *i.e.*, Educational, Police, etc., and hold a motor car driving licence.

The successful candidate will be in charge of a Division of the County and will be responsible for all work carried out in that Division.

Apply, giving age, present position, salary and date of appointment, previous appointments, names and addresses two persons for references, County Architect, Shire Hall Gloucester, by 20th September, 1956.

GUY H. DAVIS,
*Clerk of the County Council.*

3075

SOUTHAMPTON C.B.C. requires under N.J.C. conditions of service:—

ASSISTANT ARCHITECT, Special Scale, £690/£840.

Applicants should have passed Parts I and II of the R.I.B.A. final examination (or equivalent) and have had at least 5 years' experience, including period spent on theoretical training, and preferably have had experience in Municipal housing estate development and administration of contracts.

If assistance in housing accommodation is needed, please state requirements.

Apply, with copies of two testimonials, to the Borough Engineer and Surveyor, Civic Centre, Southampton, within a fortnight of the appearance of this advertisement. 3074

BUCKS COUNTY COUNCIL

Applications are invited for the post of Chief Heating and Lighting Engineer in charge of the Heating and Lighting Section of the County Architect's Department. J.N.C. Scale "B" (£1,185—£1,405 p.a.) starting point in accordance with qualifications and experience of the successful applicant.

A weekly allowance of 25s. and return fare home once every two months may be paid for a period of six months to newly appointed married officers of the Council unable to find accommodation.

Applicants must be qualified heating and lighting engineers and have had considerable experience in the installation of heating and lighting schemes for schools or other large public buildings.

Application forms giving further particulars of the appointment are obtainable from the undersigned and returnable by 22nd September, 1956.

F. B. POOLEY,
*County Architect.*

County Offices,
Aylesbury.
27th August, 1956. 3062

GOLD COAST HOUSING CORPORATION
Vacancies exist for
(*a*) QUANTITY SURVEYORS
(*b*) EXECUTIVE ENGINEERS (CIVIL)

QUANTITY SURVEYORS: Candidates must be under 45, be either Associates of the Royal Institute of Chartered Surveyors or Members of the Institution of Quantity Surveyors and have had practical experience, preferably in the tropics.

*Duties*: Preparation of Bills of Quantities, Schedules of Rates, etc., in connection with an extensive programme of work covering various types of houses and ancillary buildings together with roads, drainage and other site works throughout the Gold Coast, including responsibility for measurements for periodical certificate payments and final settlement of accounts for the above works and the briefing of and collation of reports from Inspectors of Works.

EXECUTIVE ENGINEERS (CIVIL): Candidates must be over 28 years of age and possess a good Civil Engineering degree or have passed Section I and II of the Final Examination of the Institution of Civil Engineers or hold equivalent qualifications and must have had a minimum of two years' experience after qualification. Associates of the Royal Institute of British Architects and Building Surveyors with A.R.I.C.S (Building) qualification are eligible to apply. Experience on site development and building construction in the tropics and a knowledge of works costing would be an advantage.

*Duties*: Include co-operation in the planning and layout of housing estates, site development including supervision of provision of water and electric power supply, design and construction of houses.

Terms of Service: Appointments on contract/gratuity terms for two tours of 18-24 months each in the first instance in scale (consolidated) £1,030—£2,020 for Quantity Surveyors and £1,130—£2,020 for Executive Engineers. Point of entry according to qualifications and experience. Gratuity at rate of £37 10s. for every 3 months' completed service. Outfit allowance £30—£60 and furnished quarters at low rent according to salary. Leave at rate of 7 days for each month and free first-class passages for officer, wife and up to three children under the age of 13 years.

Apply to The Secretary for Recruitment, Gold Coast Office, 13, Belgrave Square, London, S.W.1. for further particulars and a form of application. 3072

CITY OF WAKEFIELD
CITY ENGINEER'S DEPARTMENT

Applications are invited for the following superannuable appointments in the City Engineer's Department.

(*a*) PRINCIPAL QUANTITY SURVEYOR, Grade A.P.T. V (£759 × £35—£970).

Candidates must be members by examination of the R.I.C.S. or the I.Q.S. and have had a wide experience in large scale Local Authority Housing, Schools and other municipal projects.

(*b*) ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£595 × £20—£675).

Candidates should have passed the R.I.B.A. Intermediate examination and preference will be given to those having some municipal experience.

Housing accommodation will be provided if necessary in the case of appointment (*a*).

Applications stating age, qualifications and experience, together with the names of two referees should be received by the City Engineer, Town Hall, Wakfield, not later than Monday, the 24th September, 1956. 3084

CITY OF NOTTINGHAM
ASSISTANT QUANTITY SURVEYOR
Grade A.P.T. V (£795—£970 per annum)

Applications are invited for the above position in the City Engineer's Department.

Applicants should be Associates of the Royal Institution of Chartered Surveyors, or have extensive professional experience. The person appointed will be required to be responsible for all the Quantity Surveying work on individual major contracts. Commencing salary will be according to experience.

Housing accommodation is available.

Applications on forms to be obtained from R. M. Finch, O.B.E., M.I.C.E., City Engineer and Surveyor, Guildhall, are to be returned to him not later than 22nd September, 1956. 3085

CITY COUNCIL OF SINGAPORE

Applicants are invited for appointment of a QUANTITY SURVEYOR in the City Architect and Building Surveyor's Department on Agreement for two periods each of 3 years' resident service.

Applicants must be A.R.I.C.S. (Quantity Surveying Section) with five years' professional experience in the preparation of Estimates and Specifications and the financial control of building contracts.

Initial basic salary $1,010 per month in Scale $785 to $1,420 p.m. ($1 Malayan = 2s. 4d.). With current Expatriation and Variable Allowances the total emoluments on initial salary offered are equivalent to £1,855 per annum for single man; £1,981 p.a. for married man, or £2,153 p.a. for married man with one or more children.

Partly furnished quarters provided if available at 12½% of basic salary. Free air passages for officer and family subject to certain limits. Home and Local leave. Officers must join Provident Fund, and if not offered permanent appointment will be given satisfactory completion of Agreement benefits equivalent to 20% of basic salary drawn for resident service during Agreement.

Further details from the Council's London Agents: Messrs. Allen & Williams, 1, Victoria Street, Westminster, London, S.W.1. Closing date for full applications in DUPLICATE, Tuesday, 9th October, 1956. 3095

SOWERBY BRIDGE URBAN DISTRICT COUNCIL
ASSISTANT ARCHITECT

Applications are invited for the above post. The salary will be in accordance with Grade A.P.T. IV (£710—£885) of the National Scales.

Applicants should have had experience in preparing plans and quantities for Housing Schemes and supervision of work in progress. Also, should have passed Parts I and II of the R.I.B.A. final or special final examination or their equivalent at one of the recognised schools of architecture and have had at least five years' experience or should be a Registered Architect.

The appointment will be subject to the Local Government Superannuation Acts 1937, and the successful candidate will be required to pass a medical examination.

Applicants must disclose whether, to their knowledge, they are related to any member or officer of the Council.

If required, a house will be made available as soon as possible, after the appointment is made.

Applications endorsed "Assistant Architect," stating age, qualifications, and experience, and giving the names of three persons to whom reference may be made, must reach the undersigned not later than Tuesday, the 11th September, 1956.

ALFRED WOMERSLEY,
*Clerk of the Council.*

Allan House,
Station Road,
Sowerby Bridge 3069

NATIONAL COAL BOARD
WEST MIDLANDS DIVISION

Applications are invited for the following posts in the Divisional Chief Architect's Department at Himley Hall, Nr. Dudley, Worcs.

ARCHITECTS, GRADE II (Salary Scale £700 × £30—£1,000)

Applicants must be Associate Members of the Royal Institute of British Architects, and have experience in design, preparation of sketch plans, working drawings, specifications and limited supervision of work in progress.

ARCHITECTURAL ASSISTANTS, Grade I (Salary Scale £625 × £25—£750).

Applicants must have passed Intermediate R.I.B.A.

JUNIOR ARCHITECTURAL ASSISTANTS (Weekly salary according to age, 55s. (age 15) to 175s. (age 25 and over.)).

Preferably those studying for Intermediate R.I.B.A.

Office is engaged on a large programme of varied and interesting work of industrial and welfare nature and offers scope for applicants with a progressional outlook. Superannuation rights with Local Authority and certain other schemes are transferable.

Write for application forms to Division Chief Staff Officer, Himley Hall, Nr. Dudley, Worcs., which must be completed and returned within 14 days of appearance of advertisement. 3105

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies exist for ARCHITECT/PLANNERS (salaries up to £817). Tasks include 3-dimensional planning within London's eight major Comprehensive Development Areas (including Stepney/Poplar, the South Bank, and Elephant and Castle) and other Redevelopment Areas.

The work includes the preparation of comprehensive layouts covering all the important areas of new public and private development throughout the County, and covers the whole field of planning technique.

Particulars and application form from Architect (AR/EK/ATP/1). County Hall, S.E.1. (907) 1278

BOROUGH OF STOCKTON-ON-TEES
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of an ASSISTANT ARCHITECT with Final R.I.B.A., at a salary within A.P.T. Grade V (£790–£970).

Forms of application from the Borough Architect, 28, The Square, Stockton-on-Tees, to be returned not later than Saturday, 15th September, 1956. Housing accommodation available for married applicant.

The department's building programme includes the erection of primary, senior and technical schools, extensive housing work with shops and flats, large estate developments, central area redevelopment and new civic offices and hall.

JOHN B. HAWORTH.
*Town Clerk.*

Barclays Bank Chambers,
Stockton-on-Tees.
28th August, 1956. 3077

CITY OF CARDIFF
APPOINTMENT OF CITY ARCHITECT

Applications are invited for the appointment of a City Architect who will be responsible for the organisation and administration of the Architectural and Quantity Surveying Sections in the City Surveyor's Department. The salary will be in accordance with Scale H of the Salary Scales for Chief Officers of Local Authorities (£1,955 × £55—£2,230 per annum).

Application forms and a list of Duties and Conditions of Appointment are obtainable from me and should be returned by the 29th September, 1956.

S. TAPPER-JONES,
*Town Clerk.*

City Hall,
Cardiff.
August, 1956. 3067

BOROUGH OF SWINDON
APPOINTMENT OF PLANNING ASSISTANTS

Applications are invited to fill vacancies on grades A.P.T. III (£640—£765), A.P.T. IV (£710—£885) and A.P.T. V (£795—£970) according to qualifications and experience in the Planning Department of the Borough Surveyor's Office. Successful candidates will be engaged on central area redevelopment, research, valuation and planning layouts for the town expansion scheme.

Housing accommodation is available.

Applications on forms to be obtained from the Town Clerk, Civic Offices, Swindon, must be returned not later than 18th September. 3073

LANCASHIRE COUNTY COUNCIL

SENIOR ASSISTANT ARCHITECT, A.P.T. Grade VI (£880—£1,080). For architects who want a general experience on a variety of County buildings; to work in a group and have charge of projects. Experience of local government work not essential.

Application forms, from the County Architect, P.O. Box 26, County Hall, Preston, to be returned by Monday, 1st October, 1956, quoting Ref. A/AJ. 3079

BOROUGH OF BEXLEY
ASSISTANT ARCHITECT
AMENDED ADVERTISEMENT

Salary according to qualifications and experience —Special Grade (£690—£840 p.a.) or Grade A.P.T. IV (£710—£885 p.a.) plus London weighting.

Candidates should have passed the final examination of the R.I.B.A. and have had experience in housing, school and other building projects.

Forms of application with conditions of appointment obtainable from Borough Engineer, West Lodge, Broadway, Bexleyheath, to whom completed applications must be returned by Monday, 24th September, 1956.

Canvassing will disqualify.

ARTHUR GOLDFINCH,
*Town Clerk.*
3106

STAFFORDSHIRE COUNTY COUNCIL
COUNTY PLANNING AND DEVELOPMENT DEPARTMENT
APPOINTMENT OF
SENIOR PLANNING ASSISTANT

Applications are invited for the appointment of a Senior Planning Assistant in the County Planning Department within A.P.T. Grades IV-V (£710—£970) the commencing salary and grading to be in accordance with qualifications and experience.

The person appointed will be mainly engaged on the preparation and carrying into effect of housing and other estate development proposals.

Applicants should be qualified in architecture or engineering and Membership of the Town Planning Institute would also be an advantage.

Applicants should give details of age, education and training qualifications, present and previous appointments and experience, and the names of two persons to whom reference can be made. Applications, in which relationship to any member or senior officer of the County Council must be disclosed, should be sent to D. W. Riley, County Planning and Development Officer, 41a Eastgate Street, Stafford, not later than the 19th September, 1956.

T. H. EVANS,
*Clerk of the County Council.*
3093

THE CORPORATION OF GLASGOW
ARCHITECTURAL AND PLANNING DEPARTMENT
ASSISTANT ARCHITECTS
PLANNING ASSISTANTS
CIVIL ENGINEERS
QUANTITY SURVEYORS

Vacancies exist for a number of assistants. Minimum qualification, Intermediate Examination of the appropriate professional body. Salary scale £580—£1,100 per annum, with placing according to age, experience and qualifications.

Form of application may be obtained from the Principal Administrative Officer, 20, Trongate, Glasgow, C.1.

A. G. JURY,
*City Architect and Planning Officer.*
3088

PONTARDAWE RURAL DISTRICT COUNCIL
ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the following vacancies.

(*a*) HOUSING ASSISTANT—Salary Grade IV A.P. & T.D. (£710—£885).

Applicants must have had extensive experience in Local Authority Housing including the preparation of final accounts.

(*b*) GENERAL ASSISTANT—Salary Grade II A.P. & T.D. (£595—£675).

Applicants must have completed professional training and have had experience in Local Authority Housing.

The Council will assist in providing Housing Accommodation, if required.

The appointments are subject to the Local Government Superannuation Act, 1953, and the successful candidate passing a medical examination.

Applications, stating age, education, previous experience and qualifications together with the names of two referees should be submitted to the undersigned before Wednesday, September 5th, 1956.

D. GLYN MEREDITH.
*Clerk to the Council*

Council Offices,
Pontardawe,
Glam.
August, 1956. 3083

CHESTERFIELD RURAL DISTRICT COUNCIL
Applications are invited for the positions of:—
(*a*) ASSISTANT ARCHITECT
(*b*) QUANTITY SURVEYOR
in the Department of the Engineer and Surveyor (Mr. J. B. Wikeley, M.Eng., A.M.I.C.E., M.I.Mun.E., Barrister-at-Law).
(*a*) Applicants should be Registered Architects and preferably A.R.I.B.A., with experience in local authority housing.
(*b*) Applicants should be qualified Quantity Surveyors (R.I.C.S. or I.Q.S.) with experience of local authority housing, preparation and billing of quantities, and settlement of final accounts.
Salaries according to qualifications and experience.
Assistance will be given in the provision of housing accommodation.
Further particulars and forms of application may be obtained from the Engineer and Surveyor. Applications should be returned to the undersigned in a suitably endorsed envelope by 21st September, 1956.

H. O. HAWKINS,
*Clerk to the Council.*

Rural Council House,
Saltergate,
Chesterfield. 3066

UNITED BRISTOL HOSPITALS
ASSISTANT SECRETARY (WORKS AND BUILDINGS) required to undertake administrative planning and control of capital and maintenance works. Candidates should have had similar experience and should preferably be not less than 35 years of age.
Salary between £900 and £1,100 per annum, according to age, qualifications and experience. The appointment is superannuable.
Applications, with names of two referees, should be sent to the Secretary, Bristol Royal Infirmary, Bristol 2 (from whom further particulars may be obtained), not later than 9th October, 1956. 3086

COUNTY BOROUGH OF SOUTHAMPTON
BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the permanent post of ASSISTANT PLANNING OFFICER, Grade IV (£710-£885).
Applicants should be members of the Town Planning Institute and preferably hold an architectural qualification. Duties will include architectural aspects of planning, particularly in connection with central area reconstruction. Candidates should state their housing needs. Application forms from the Borough Architect, Civic Centre, Southampton. Closing date, 24th September, 1956. 3111

SURREY COUNTY COUNCIL
EDUCATION DEPARTMENT
KINGSTON SCHOOL OF ART
Applications are invited for the following appointments in the Department of Architecture to commence with the new session 1956:
1. PART-TIME STUDIO INSTRUCTOR to instruct in the basic principles of general design, and also to assist with the supervision of the general architectural studies of the First Year students.
2. PART-TIME INSTRUCTOR IN STRUCTURAL MECHANICS (Intermediate Stage) for one seven-hour day weekly.
3. PART-TIME INSTRUCTOR IN ACOUSTIC DESIGN AND SOUND CONTROL for one seven-hour day weekly.

Applicants should be well qualified professionally, have had varied practical experience and be actively engaged in their profession. Previous teaching experience will be an additional qualification.
Salary for these appointments will be in accordance with the rates approved by the Education Committee. The appointment of the Studio Instructor will be up to a maximum of three seven-hour days weekly.
Application form and further particulars including details of part-time rates of salary may be obtained upon receipt of a stamped addressed envelope, from the Registrar, Kingston School of Art, Knight's Park, Kingston-on-Thames, Surrey. 3098

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited from qualified persons for the post of SENIOR ASSISTANT QUANTITY SURVEYOR in the Regional Architect's Department. Commencing salary £975, rising by increments of £35 (1) and £30 (5) to £1,160 p.a. Compulsory superannuation. A car is desirable. Applications, stating age, training, qualifications, previous experience and present salary, with the names of two referees, should be submitted to the Secretary, Oxford Regional Hospital Board, 43, Banbury Road, Oxford, by not later than 14th September, 1956. 2090

MIDDLESEX COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT
SENIOR PLANNING ASSISTANT (A.P.T. IV —£710 to £885 p.a. plus London weighting). Appointment will be made at appropriate point on grade according to qualifications and experience in architecture or planning. Established, pensionable, subject to medical assessment and prescribed conditions. Application forms from County Planning Officer, 10, Gt. George Street, S.W.1, returnable by 24th September (Quote T.534 A.J.). Canvassing disqualifies. 3125

TOWN PLANNING ASSISTANT required by UGANDA GOVERNMENT on contract for tour of 30/36 months in first instance. Salary scale (including Inducement Allowance) £813 rising to £1,341 a year. Gratuity at rate of 13½% of total substantive salary drawn. Liberal leave on full salary. Free passages. Candidates should have reached standard of Intermediate Examination of R.I.B.A. or of Town Planning Institute or have good experience. Duties include supervision and instruction of drawing office staff and assistance of senior staff in inspection of areas and preparation of planning schemes. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2B/41926/AG. 3124

BOROUGH OF HARTLEPOOL
SENIOR ASSISTANT ARCHITECT
Applications are invited for the above appointment at a salary within the special grade £690—£840.
Applicants should have had sound architectural training and experience. Preference will be given to Associates of the R.I.B.A.
The appointment is superannuable and subject to the National Scheme of Conditions of Service.
Housing accommodation will be made available if required.
Applications, stating age, qualifications and experience, together with the names of two referees must be received by the undersigned not later than 17th September, 1956.

L. O. WILLIAMS,
*Town Clerk.*

Borough Buildings,
Hartlepool. 3119

CITY OF BIRMINGHAM
CITY ARCHITECT'S DEPARTMENT
Applications are invited for the appointment of QUANTITY SURVEYOR within Grade A.P.T. V (£795—£970 per annum) at a commencing salary according to capabilities and experience.
Applicants must have passed the Final Examination of the R.I.C.S. (Quantity Section), or hold equivalent qualifications.
The post is permanent, subject to a medical examination, to one month's notice on either side, and to the provisions of the Local Government Superannuation Acts, 1937/53, and the Birmingham Municipal Officers' Widows and Orphans' Pensions Scheme.
Applications, endorsed with the heading of the post, setting out present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than 21st September 1956.
Canvassing disqualifies

A. G. SHEPPARD FIDLER,
*City Architect.*

Civic Centre,
Birmingham, 1. 3117

BOROUGH OF BRENTFORD AND CHISWICK
APPOINTMENT OF ASSISTANT ARCHITECT
Applications are invited for the above appointment at a salary in accordance with Grade A.P.T. II (£595—£675) plus London weighting allowance, the commencing salary dependent upon experience. The post offers excellent opportunities for gaining architectural training and experience.
Form of application, which is to be returned not later than Monday, 17th September, 1956, can be obtained from the Borough Engineer, Town Hall, W.4.

W. F. J. CHURCH,
*Town Clerk.*

Town Hall,
Chiswick, W.4. 3118

ROYAL BURGH OF ARBROATH
HOUSING ARCHITECT'S DEPARTMENT
Applications are invited for the appointment of JUNIOR ARCHITECTURAL ASSISTANT in the above Department at a salary of £580—£665 (A.P.T. Grades II and III) with placing on the scale in accordance with qualifications and experience.
Applications together with copies of two recent testimonials, should be lodged with W. R. Samson, A.R.I.B.A., Housing Architect, 32, Hill Street, Arbroath, not later than Thursday, 20th September, 1956.

WILLIAM D. SMITH,
*Town Clerk.*

Town House,
Arbroath,
Angus.
August, 1956. 3116

URBAN DISTRICT COUNCIL OF CORBY
SENIOR ARCHITECTURAL ASSISTANT
GRADE A.P.T. IV (£710—£885)
Applications are invited for the above appointment in the Architectural Section of the Engineer and Surveyor's Department.
Applicants must be Registered Architects and should have considerable experience in design, construction and contract administration as applied to contracts for Public Buildings and local authority housing.
The provisions of the Local Government Superannuation Acts 1937/53 will apply to this appointment.
Housing accommodation will be made available to the successful candidate if married.
Forms of application may be obtained from the undersigned, to whom they should be returned not later than the first post on Friday, the 14th September, 1956.

G. B. BLACKALL,
*Clerk of the Council.*

Council Offices,
Corby, Northants.
14th August, 1956. 2052

## Architectural Appointments Vacant

*4 lines or under, 7s. 6d.; each additional line, 2s.*

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, MANCHESTER.
APPLICATIONS are invited for the following appointments:—
(*a*) SENIOR ASSISTANT ARCHITECTS, with experience of work on commercial and industrial projects.
(Salary range £820 to £975 per annum.)
(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings from preliminary details.
(Salary range £550 to £820 per annum.)
There is a five-day week in operation, and both appointments offer prospects of upgrading.
Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3871

CROYDON.—ARCHITECTURAL ASSISTANT required immediately for interesting and varied work. Inter./Final standard; capable of running small contracts.—Write age, experience, and salary required, to George Lowe & Partner, 4, High Street, Croydon, Surrey. 1951

JAMES COMBE & SON LTD
*Established 1840*
HEATING AND VENTILATING ENGINEERS
FOR BRITISH TABULATING MACHINE CO's.
NEW FACTORY, STEVENAGE, HERTS.
14 CARLISLE ROAD LONDON, N.W.9 COL 8691 GLASGOW and WELWYN GDN. CITY

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM.

APPLICATIONS are invited for the following appointments in a newly formed Branch Office. Interesting and varied commercial and industrial projects.

(*a*) SENIOR ASSISTANT ARCHITECT, with experience in Store and Shop Design.
(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings and details from preliminary sketches.
(Salary range £550 to £820 per annum.)

Both appointments offer prospects of upgrading. Applications, stating age, experience, qualifications, and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3872

ASSISTANT ARCHITECT required by West End firm for important airport, industrial and office schemes. Salary according to experience. Box 1891.

ARCHITECTURAL ASSISTANT required in busy London office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write, giving particulars of age, qualifications, experience, etc., to Box 775, c/o 7, Coptic Street, W.C.1. 9313

LONDON Consultants require immediately ASSISTANTS of Intermediate and R.I.B.A. standard for varied and interesting contemporary industrial projects. Responsibility given to applicants with good design sense and constructional ability. Apply, giving full particulars and salary required. to Box No. 401, Glovers Advertising Ltd., 351, Oxford Street, London, W.1. 9341

ARCHITECT'S ASSISTANTS required immediately. Inter/Final standard. Salary according to experience. 5-day week. Staff canteen. Pension Scheme.—Applications in writing, giving full details of age, experience and salary, to Personnel Department, British Home Stores, Ltd., 129, Marylebone Road, London, N.W.1. 2056

ARCHITECT'S Department of a large multiple retail concern, with office in London, require ARCHITECTURAL ASSISTANTS (Intermediate standard). There is a pension scheme and a 5-day week in operation. Dining room available for the use of staff.—Applicants should write, giving particulars of age, experience, and salary required, Box 2074.

SOUTH COAST FIRM OF ARCHITECTS, having substantial and varied practice, invite applications for the following vacancies:
(*a*) QUALIFIED ASSISTANT with several years' experience, capable of taking charge of a small group of assistants.
(*b*) MEDIUM GRADE ASSISTANTS with some experience, academic qualifications not a necessity.
Applications stating salary required to Box 3026.

TREHEARNE & NORMAN, PRESTON & PARTNERS have vacancies for SENIOR AND JUNIOR ASSISTANTS. Salaries according to experience and qualifications. Apply: 83, Kingsway, W.C.2 (HOL 4071). 3028

ARCHITECT'S ASSISTANT. Inter. Standard. Charles E. Ware & Son, 20, Richmond Road, Exeter, Devon. 3039

ARCHITECTS' ASSISTANTS, with experience and ability, required immediately in our Leamington and Birmingham offices. Apply, giving particulars and preference, to: Quick & Lee, Chartered Architects, 11, Waterloo Place, Leamington Spa. 3045

W. J. SIMMS Sons & Cooke Ltd., Manufacturers of Factory-made Timber Buildings, have vacancies in their Architectural Department for an experienced SENIOR ASSISTANT and also a JUNIOR ASSISTANT. The work is interesting and varied in connection with manufacture for both the home and export market. Salaries will be commensurate with experience and ability. Accommodation is available for the Senior Assistant. Apply to the Staff Architect, W. J. Simms Sons & Cooke Ltd., Haydn Road, Sherwood, Nottingham. 3016

SENIOR ARCHITECTURAL ASSISTANT required. West End Office. Capable of working on own initiative on commercial projects. Reply, stating age, qualifications and salary required to W. R. Orme, A.R.I.B.A., 9, Carlos Place, Grosvenor Square, W.1. 2099

ARCHITECTURAL ASSISTANTS, qualified and intermediate standard, required for Private Practice in Glasgow. Knowledge of school planning desirable but not essential. Salary range £650—£1,000 according to experience and qualifications. Box 3054.

ARCHITECT, R.I.B.A., Inter Standard, with Shop Fitting experience, required by well-known London Multiple Firm. Permanent position, Pension Fund. Apply stating previous experience and salary required to Box 3059.

CO-OPERATIVE WHOLESALE SOCIETY LTD. ARCHITECT'S DEPARTMENT, MANCHESTER

SHOPFITTING DRAUGHTSMAN required, experienced in shop equipment and modernisation of interiors.

The position calls for the preparation of layouts and perspectives with a modern approach to store fitting problems.

The post is pensionable, subject to medical examination and there is a five-day week in operation.

Applications giving age, details of previous experience and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester 4. 3056

SENIOR AND JUNIOR ASSISTANTS required for large schemes of contemporary nature. Excellent opportunities offered to suitable applicants. Five-day week. Please write giving full particulars of experience and salary required to Johns, Slater & Haward, F/A.R.I.B.A., 32, Foundation Street, Ipswich. 3060

ARCHITECT'S ASSISTANTS required, London. Salaries £500—£750. Box 3061.

A DESIGNER/DETAILER required in the office of the Architect to a manufacturing company in North-West Kent and branches in the provinces. Experienced in structural steel and reinforced concrete designs for industrial buildings. 5-day week. Excellent working conditions. Salary dependent on age and qualifications.—Box 3122.

ARCHITECTURAL ASSISTANTS (Senior and Intermediate) required by Consulting Engineers; preferably with experience in Industrial and Commercial Buildings. Good salaries paid to the right men. 5-day week. Luncheon vouchers, pension scheme.—The Coniston Company, Eagle House, High Street, Wimbledon S.W.19. WIM. 8521. 3081

ARCHITECTURAL ASSISTANT required, Intermediate standard, for St. Albans office. Capable of carrying out design and working drawings in varied practice under supervision. Salary according to experience.—Apply in writing, giving details of qualifications and experience, to F. J. Taylor, Son & Bracken, 20, London Road, St. Albans. 3087

ARCHITECT'S ASSISTANTS required, Intermediate standard. for Schools, Churches, Housing, etc.—Apply, giving details of experience and salary required. to J. C. Prestwich & Sons, M.A., F/A.R.I.B.A., Bradshawgate Chambers, Leigh, Lancs. 3123

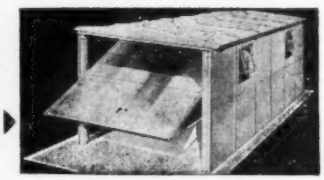

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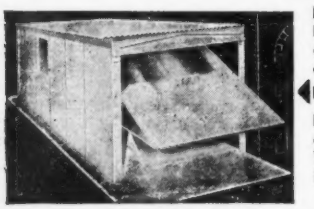
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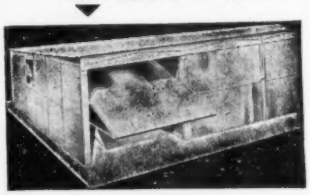
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DESIGNING experience in the working out of projects for large buildings is offered to a young qualified ASSISTANT with real ability. London office.—Apply, stating qualifications and salary required, to Box 3080.

ARCHITECTURAL ASSISTANT, Inter. standard, required by Birmingham firm. 5-day week; concessions for study.—Box 3121.

STRUCTURAL ENGINEERING DRAUGHTSMAN, experienced in the design and construction of high-class industrial buildings in steel and reinforced concrete. Accommodation will be available.—Write, stating age, qualifications and salary required, to E.M.A., Cadbury Brothers, Ltd., Bournville, Birmingham. 3120

WAR OFFICE require THREE ARCHITECTURAL ASSISTANTS, two at C.R.E. Northern Counties in Darlington and one at Catterick Camp. Must have recognised training and not less than 3 years' experience in Architect's office. Salary according to age, quals., and experience in the provincial range £470 to £742 by annual increments of approx. £25, subject to satisfactory service.—Apply any Employment Exchange, quoting Order No. Richmond, Yorks. 184. 3101

ARCHITECTS (London, F.R.I.B.A.) have vacancy for PUPIL with G.C.E. No premium; small salary. Service deferment probably arranged. Tel.: CHA. 7611, or write Box 3109.

SMALL West London office, with varied practice, urgently requires ASSISTANT of 2 years' minimum office experience.—Details and salary required to Pollen & Jebb, 8, Pembroke Square, W.8. Tel. No.: WES. 4974. 3096

ARCHITECTS (SENIOR or ASSISTANT), qualified or to the standard of the R.I.B.A. Final examinations. Two positions vacant in the office of a firm of Architects in Melbourne, Australia. Salaries (sterling p.a.): Senior £1,500 upwards, Assistant £1,200-£1,500. Good conditions; 5-day week. Responsible work, with encouragement to advance.—Reply to Box 3097. Selected applicants will be interviewed in London on the 4th October.

WEST END Architects require ASSISTANT for preparation of working drawings. Some office experience essential, together with a sound knowledge of building construction.—Box 3091.

SMALL West End office, undertaking a wide range of work, urgently requires ASSISTANT. Must have at least 2 years' office experience.—Reply with details of experience and salary required, Box 3090.

LIONEL BRETT & PETER BOSANQUET are looking for two newly-qualified ARCHITECTS, either married or both female, to share cottage and work in their country office.—Write Watlington Park, Oxon, or telephone Watlington 140. 3099

J. DOUGLASS MATHEWS & PARTNERS, Chartered Architects, 3, Ebury Street, London, S.W.1, require Five Medium Grade ASSISTANTS, and Two JUNIOR ASSISTANTS. Salaries in accordance with experience. 3104

ARCHITECTURAL ASSISTANT, Inter. to Final standard, required in small contemporary office.—A. F. Bennett, 35, Queens Gate Mews, S.W.7. KNI. 6937. 3102

GABY SCHREIBER AND ASSOCIATES, 7, Hobart Place, S.W.1, have a vacancy for a qualified ARCHITECT, with some office experience. Salary £700—£750 p.a. Work includes contemporary shops and industrial buildings. 3107

EXPERIENCED ASSISTANT of R.I.B.A. standard required by Liverpool Architect for work on Commercial buildings. Salary by arrangement.—Box 3108.

ASSISTANT for small busy London office, approximately Intermediate standard, with office experience. Michael Barnett, F.R.I.B.A. CHA. 4661. 3031

ARCHITECTURAL ASSISTANTS with practical experience required by Farmer and Dark, Romney House, Tufton Street, Westminster, S.W.1., 5 day week. 3114

## Architectural Appointments Wanted

*4 lines or under, 7s. 6d.; each additional line, 2s.*

ARCHITECT (R.I.B.A.), over 30 years experience in London, seeks change of location. Would welcome congenial appointment in Surrey. Box 2022.

ARCHITECTURAL ASSISTANT seeks work in London. Several years' experience of commercial and domestic work. Box 3110.

B.A., Dipl.Arch (U.C.L.), nearing A.R.I.B.A., two years' varied experience in London, seeks a position in India with a progressive firm of Architects.—Write to SKK, 216A, Finchley Road, London, N.W.3. 3089

## Other Appointments Vacant

*4 lines or under, 7s. 6d.; each additional line, 2s.*

CHIEF OF DRAWING OFFICE.—Division of East Midlands manufacturing concern, prefabricating timber structures, invites immediate applications for this important and responsible position. The successful applicant must have good structural background, preferably including prefabrication and/or timber-engineering experience, and must be able to organise and control drawing office producing a large volume of schemes designs and working drawings. A most attractive salary is offered, with pension scheme and congenial working conditions. There are exceptional prospects for rapid advancement.—Please write fully to Box 3070.

WEST END Architect's office urgently require SECRETARY / SHORTHAND TYPIST.—Phone Hunter 0331. 3071

## Competition

*6 lines or under, 12s. 6d.; each additional line, 2s.*

CITY OF CARLISLE
A TWO STAGE COMPETITION

The Corporation of the City and County Borough of Carlisle invite architects registered under the Architects (Registration) Acts and resident in Great Britain, Northern Ireland or the Republic of Ireland to submit in competition designs for a new Assembly Hall and Municipal Offices to be erected in Carlisle. Assessor: Professor W. B. Edwards, M.A., B.ARCH., M.T.P.I. (F). PREMIUMS:—

(*a*) Preliminary Stage. Six competitors will be selected to proceed to Final Stage. Each will receive the sum of £300. Last day for submitting designs, Friday, 31st January, 1957.

(*b*) Final Stage. The author of the design placed first will receive £1,000. Last day for submitting designs, 1st July, 1957.

Last day for questions, 27th October, 1956.

Conditions may be obtained from the Town Clerk, 15, Fisher Street, Carlisle, on or after 17th September, 1956. Deposit £2 2s. 0d.

Applicants for the conditions must state their registration number or the number of the receipt issued to him by the Architects Registration Council in respect of the admission fee.

H. D. A. ROBERTSON,
*Town Clerk.*
3112

## Services Offered

*4 lines or under, 7s. 6d.; each additional line, 2s.*

IS IT ACCURATE? The Site Survey Company, Blackheath, S.E.3. Telephone: LEE Green 7444-5. 1890

GOOD LETTERING is essential for Commemorative Wall Tablets, Foundation Stones, etc. Designs prepared and estimates given for the finished work in any suitable material. Renowned as a Centre for Lettering since 1934. Sculptured Memorials, 67, Ebury Street, S.W.1. 9170

SURVEYS OF BUILDINGS, detailed drawings prepared, also land surveys by chain or theodolite, levelling, etc. LIV. 1839. 1739

TYPEWRITING/DUPLICATING. — Specifications, etc., undertaken by experts. Reasonable charges.—Stone's Secretarial Services, 446, Strand. Tem. 5984. 2046

ARCHITECT-MADE MODELS. Clients visited with photographs. Firm estimates of price and time given. R. Powell, 34, Cornwall Gardens, S.W.7. BAY 8209. 1747

NAMEPLATES AND SIGNS, Bronze, Brass and Plastics. Church Metalwork. Quick delivery. Austin, Luce & Company, 19, College Road, Harrow, Middlesex. Tel.: Harrow 3839. 1174

NAMEPLATES, PLAQUES, CRESTS, etc., in bronze, brass and plastic, quotations and lay-outs submitted. Abbey Craftsmen Ltd., 78, Osnaburgh Street, London, N.W.1 Euston 5722. 4165

ARCHITECTURAL PHOTOGRAPHY to Monochrome, Natural Colour and 3D. Quotations with pleasure.—Geoffrey Hammonds (Associate of the Institute of British Photographers in Commercial Photography). 3094

ARCHITECTURAL, Reinforced Concrete and Steel Design and Detailing required—only buildings over £10,000. Large staff available. MUSeum 8753.

Site Surveys and Surveys of Buildings prepared at short notice anyhere in Britain. MUSeum 8753. 3103

QUICK and neat Final standard ASSISTANT would like to do evening work of tracing, etc. Work at home (London) preferred, though not essential.—Box 3115.

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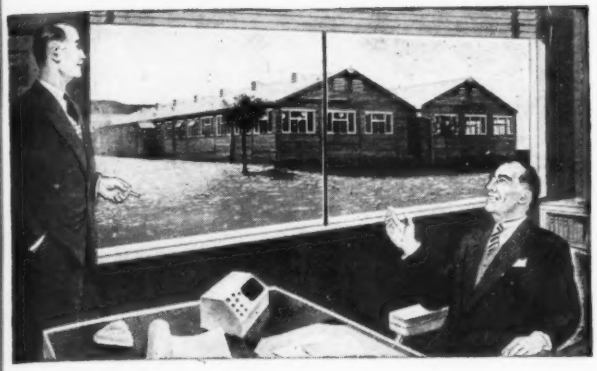
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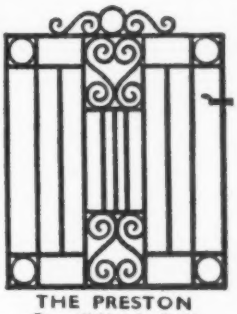
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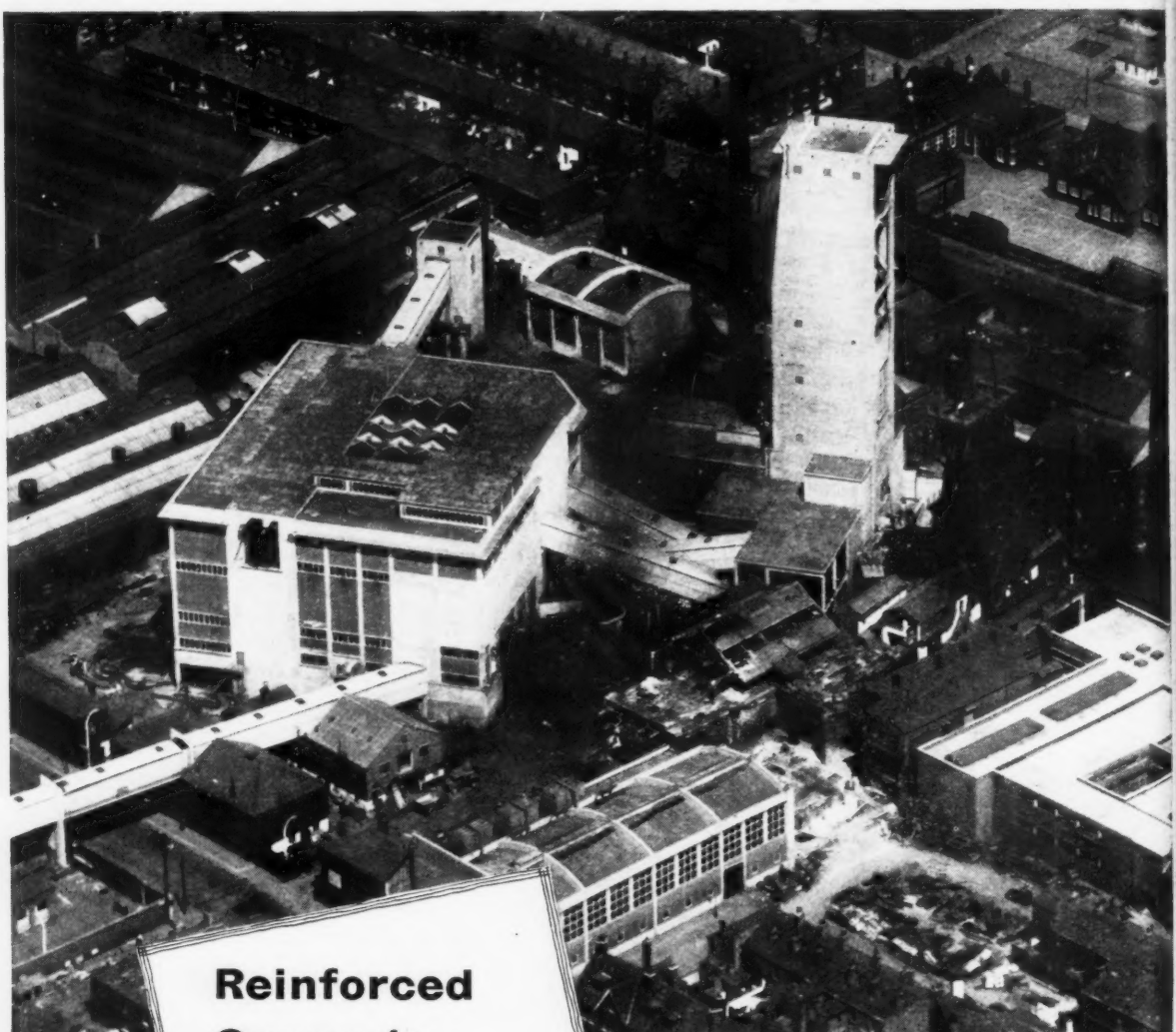
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